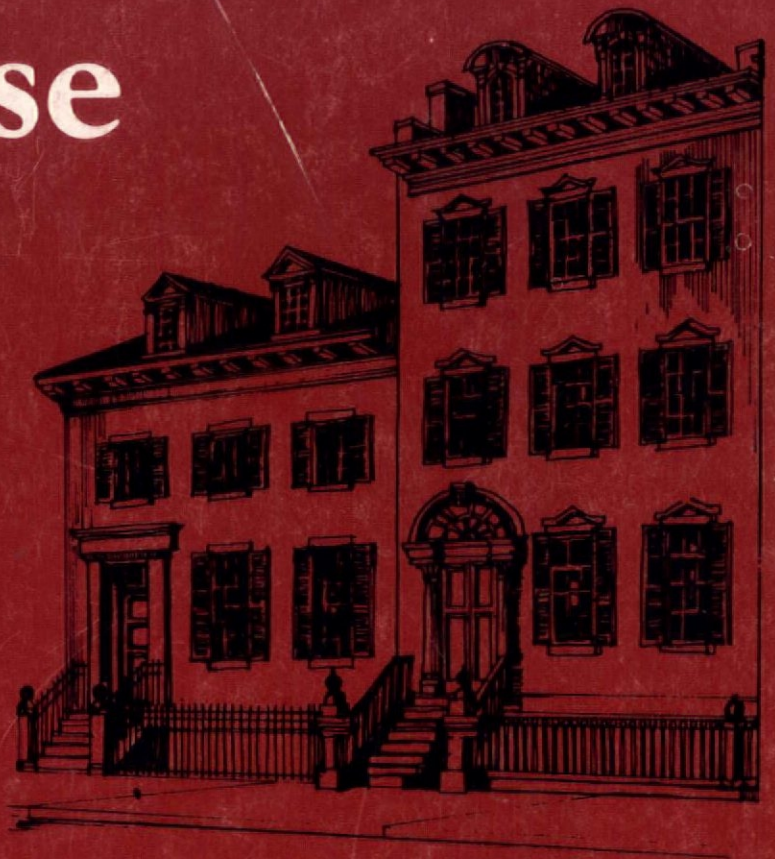


Restoration and Maintenance Techniques
For The Pre-1939 House

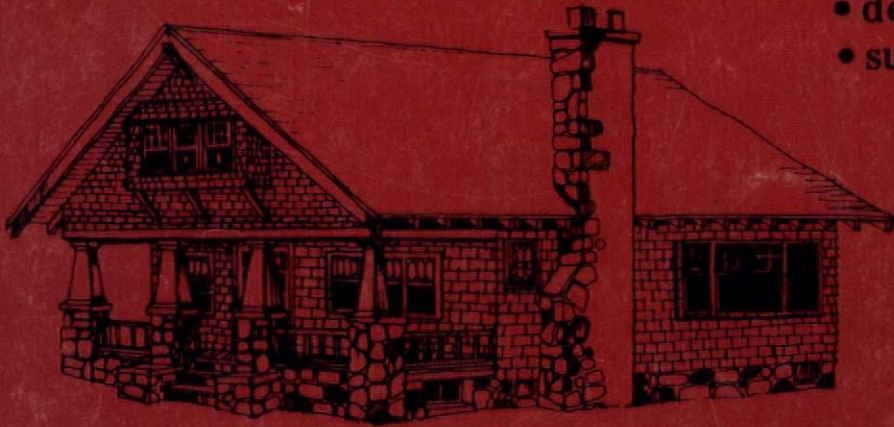


The Old-House Journal



Practical techniques for the sensitive
rehabilitation of older buildings:

- do-it-yourself restoration methods
- decorating ideas and practices
- surveys of architectural styles
- sources for historically
appropriate products
... and much more!



1979 YEARBOOK



The Old-House Journal

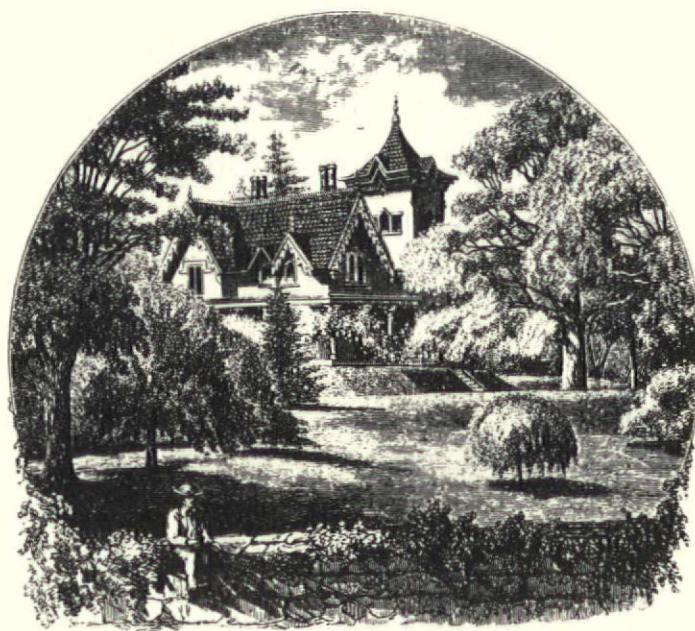
1979

Yearbook

A one-volume compilation
of all the editorial pages
printed in The Old-House Journal in 1979

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Preface

Good Planning & All You Need Is Sensitivity

Whether you're a first-time rehabber or a seasoned restoration veteran, setting a concrete plan of action on what needs to be done — and *how* to do it — is of prime importance.

And, as in any aesthetic pursuit, *attitude* is important. Whether you are doing what we call an "interpretive restoration" or the simpler "rehabilitation," *sensitivity* must always come first.

Sensitivity implies an attitude of respect towards the house, and the quality craftsmanship put in over the years. The sensitive owner avoids the "one-size-fits-all" package deal approach that so many "home improvement" contractors favor. Ugly work on *interiors* is bad enough, but ugly work on *exteriors* degrades both the house itself and the rest of the community.

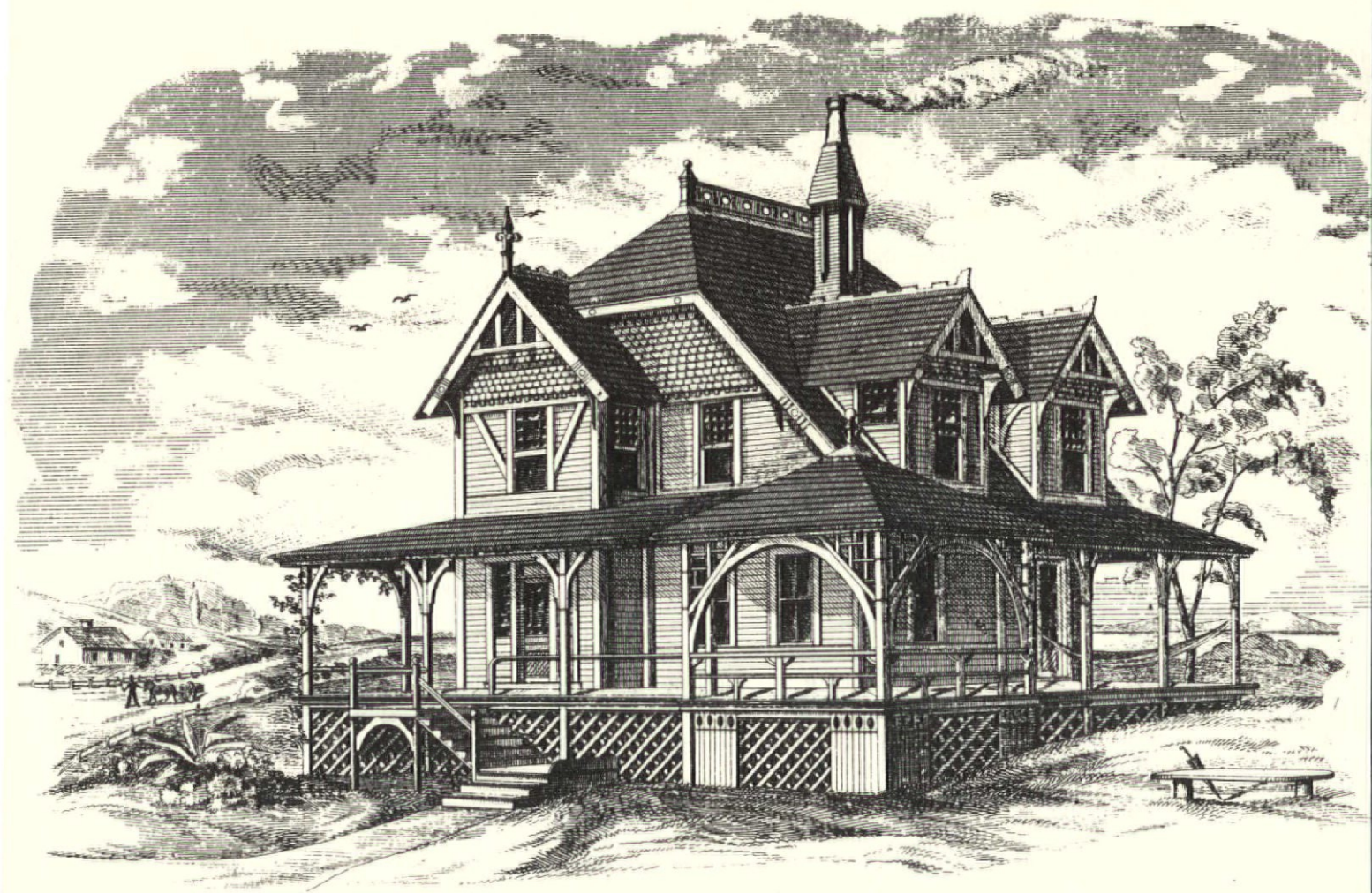
Your "Master Plan" should take into account (1) the living needs of you and your family, and (2) the need to treat the structure in a sensitive manner. Both must be done within reasonable time and budget allowances. When these criteria conflict, the sensitive homeowner works out the best possible compromise solution, knowing that the house will be around for a long time to come — probably longer than *you* will be!

Rather than have a pile of terrific ideas written on the backs of envelopes, we strongly suggest you carefully organize your notes into a coherent plan. File folders or 3-ring binders are good systems, and should be divided according to areas of the house.

Keeping a written inventory of projects will help you develop a clear perspective on what needs to be done and how much it will cost, set priorities, and avoid mistakes. After all, you don't want to rip apart a freshly-stenciled hallway just because you forgot to tell the electrician to add switchboxes!

Even if you have an architect supervise the formal planning and execution of the work, this detailed planning step will help clarify your own goals, and will save consultation time with the architect, since you have already narrowed your options.

When you carefully plan the work on your building, and do it with the sensitivity due old houses, you'll wind up with a house that's a visual asset to the community . . . and a financial asset to you!





The Old-House Journal

What's It All About?

This Yearbook is a compilation of one full year's worth of Old-House Journal issues. That's a lot of nuts-and-bolts information . . . but that's not where it all ends. Every month there is a continuing dialogue among our staff, homeowners and restoration professionals across the nation. Each issue is a combination of our own research — plus techniques from our readers — blended together in this unique old-house lovers' forum.

The Old-House Journal is the only publication devoted exclusively to the restoration, maintenance and decoration of old houses. Every month our plainly-written articles show you practical, economical ways of turning that old house “with a lot of potential” into the house of your dreams.

The Journal is written and edited by people who have restored old houses themselves. Their first-hand knowledge will help you *do it yourself*, turning *your* house into the kind of house photographed by those “pretty picture” magazines. Your picture-pretty home will breathe with new life from the floorboards to the finials . . . at costs that *won't* make you gasp.

The expert advice from The Old-House Journal will help you save money when it's time to bring in contractors. You'll be able to give specific instructions to them, and be able to supervise the work.

And, whether you do it yourself or have the contractors do the work, you'll avoid costly mistakes.

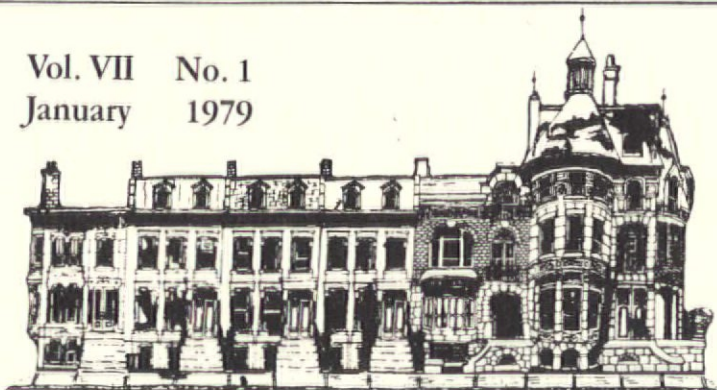
There are *extra* pluses that joining The Old-House Journal Network brings: Things like getting free classified ads, being able to use us as a professional consultant through our “Ask OHJ” column, getting let in on other subscribers' techniques through our “Restorer's Notebook,” and being exposed to the best books and products available for the old-house lover.

New techniques and products are being discovered all the time . . . and we're always on the lookout for the *rediscovered* techniques of the old-time craftspeople.

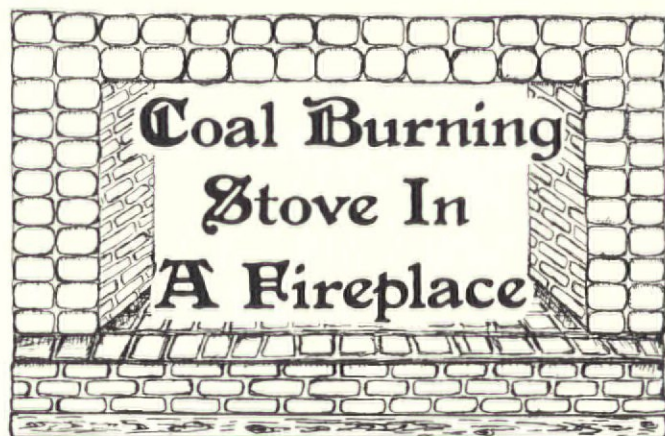
If you love the look of old houses . . . the beauty of restored interiors and facades . . . quality materials and fine craftsmanship . . . and itch for the joy of doing it yourself . . . then The Old-House Journal is for you.

THE OLD-HOUSE JOURNAL

Vol. VII No. 1
January 1979



Restoration And Maintenance Techniques For The Antique House



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Coming Next Month

RESTORING DAMAGED PLASTER

By Rev. Thomas G. Souders, Philadelphia, Pa.

WHEN WE FIRST MOVED INTO THIS house in 1969, we realized it was not an ordinary place. One of the first clues came when we asked if an electrical outlet could be put on a certain wall. The answer was an emphatic "No! The last time we tried that we found a 22 in. stone wall to go through." It slowly dawned upon us that this place with its pegged rafters, rippled glass, deep windows, and hand dug wells is an old-timer.

WE WERE SO HAPPY to find the enormous fireplace in a central room. The first occasion to use it came when the Youth Fellowship was having a picnic and it was rained out. We brought everything indoors and set up a fire in the fireplace. Being a volunteer fireman for some years, I thought it wise to check the upstairs and the chimney since this was the first use of the fireplace.

EVERYTHING looked okay until I lifted the little lid which gives access to the tiny cockloft running the length of the house. Sure enough, it was filled with smoke! When I stuck my head up into the area and checked the chimney, I could see holes in the mortar and a check of these showed

that they extended completely through the chimney wall. Not wanting to damage the fireplace tiles and bricks with water, I put the fire out with a foam extinguisher.

FOR SEVERAL YEARS we tried to get someone to put a flue liner in the chimney or in some way make the fireplace functional. It appeared hopeless. The chimney is constructed of fieldstone (in this area mica schist) and only at the top five or six ft. does it narrow down to a rectangular, brick chimney. Upon looking up through the damper, I discovered what I had seen in old, untouched farmhouses: the interior of a walk-in, fieldstone fireplace complete with meat hooks and the soot of generations.

THIS MEANS THAT our enormous fireplace was built inside an even larger fireplace! Climbing up on top of the third storey section of the house and peering down confirmed the interior observations--the chimney widened and curved on the way down, with the fireplace set about three ft. in from the chimney. Also, in the cellar directly underneath the original section of the fireplace, is a massive stone arch



(Cont'd. on page 8)

Leaks From Old Gas Pipes

To The Editor:

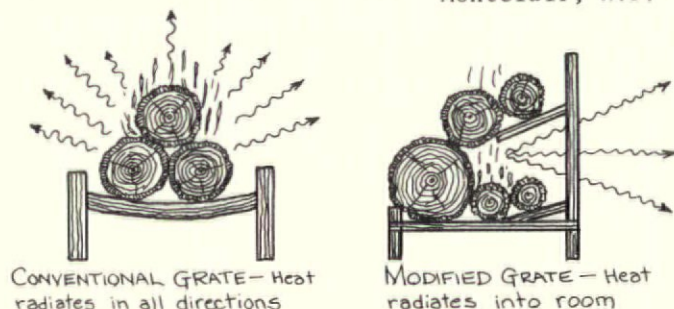
THE ARTICLE ON reviving old lighting systems (OHJ, Nov. 1978) reminded me of something that occurred in our home. A few years ago, I thought I smelled gas in our bedroom. This made no sense to me, so I dismissed the thought as we went out for the evening. Returning later that evening, I still smelled it—stronger than before. My wife confirmed my observation.

STILL FEELING LIKE a fool, I called the gas company. They sent a workman over who confirmed that gas was indeed coming into the bedroom. It was coming from the gas pipes in the wall where the old wall sconces had been. The pipes had been capped—but they were still connected to the main gas supply used for the kitchen and the water heater. Some corrosion had taken place in the wall pipes...and now gas was leaking into the bedroom.

IN ORDER TO be able to sleep that night, we had to shut off the main gas valve to the house. Next day, we had our plumber disconnect all the old gas pipes.

I THINK this is a hazard not often recognized in old houses. Fortunately, it's one that is easy to remedy.

Adrien L. Coblentz, M.D.
Montclair, N.J.



A High-Heat Fire

To The Editor:

IN THE ARTICLE "How To Build A High-Heat Fire," (OHJ, Jan. 1978) a procedure is described in which the fire is built on a bed of ashes. I use a variation of that technique, which I believe is more effective. The fire is based on the use of a grate called "The Texas Fireframe."

WITH THIS GRATE, a large rear reflecting log is used, as with the system described in the previous Journal article. However, the Texas Fireframe also adds an additional large log over the fire to reflect still more heat into the room.

A FRIEND AND I who use this system have allowed the ashes to build up under the grate, which keeps the fire from moving under the back log—preventing the fire from burning too

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vigorously. The amount of heat reflected into the room seems large; a small fire soon has our living room quite warm.

ANOTHER TRICK a friend uses to increase the amount of radiant heat is to build a light metal frame for the back of the fireplace and cover it with heavy aluminum foil. A covering of foil will generally last one heating season. The foil can also be extended to the sides of the firebox. The appearance is not very "old house," as you can visualize, but while the fire is burning the reflected light patterns into the room are fun to watch.

MORE INFORMATION on the grate can be obtained from Texas Fireframe Co., P.O. Box 3435, Austin, Texas 78764.

Paul B. Hinds
Rochester, N.Y.

Dangers Of Dipping

To The Editor:

MORE AND MORE owners of old houses are having shutters and other exterior woodwork stripped of paint by having them dipped commercially. But in many cases, wood that has been treated in this fashion will not accept new paint—even though it has first been treated with wood preservative.

IT APPEARS THAT the chemicals keep leaching through to the surface. Any new paint that is applied peels off within six months.

DOES ANYONE KNOW of research that has been done on the use of dip stripping for exterior wood? And is there any remedy for wood that has been so treated that is shedding paint?

Sandra Bergmann
Richard Bergmann Architects
New Canaan, Conn.

A Small Farmhouse In Illinois

By Barbara Schiller

WHILE PASSING THROUGH NORTHWESTERN Illinois on August 3, 1974, Norma Vander Meer saw a small advertisement in a realtor's brochure:

Stone house...over 100 years old and built with square nails. No water or electricity but solid and repairable.

Norma drove over to see the house. There was a frame addition built around 1900 and over half an acre of land with a creek running through it. "My heart did a double beat, and my head said you can't do it. My heart won out."

ON JUNE 29, 1976, Norma moved into a charming farmhouse with all the modern conveniences. The almost two years between seeing the advertisement and moving day were, Norma says, the best years of her life. She had never worked so hard or loved it so much.

EVERY FRIDAY NIGHT for 14 months she drove the 102 miles from the Chicago suburb of Elmhurst out to Rock City, Illinois. She worked on the house from sun up to sun down until Sunday night, then drove back to Elmhurst. Norma is able to enjoy the result of her labors from Thursday nights until Monday mornings since she now works a four-day week.



Norma's farmhouse before work began. The stone part was built in 1865 and the frame portion added about 1900.



HER SCHEDULE would have been grueling for anyone. For Norma it was particularly trying since most of the skills necessary for renovating the house had to be learned by doing. Her only previous experience had been watching her parents when they remodeled their own house, and helping them with some of the work.

PLUMBING, ELECTRICAL WORK, well digging and foundation work were too important to be done by amateurs. But Norma did most of the real gut work and all the finishing work with the help of her family and friends.

THE COZY (1200 sq. ft.) house consists of a stone part built in 1865 with walls 18 in. thick. The frame portion added on about 1900 has the decorative bevelled glass and wood trim typical of its period. Every bit of woodwork was refinished. First it was numbered, then removed, finished and re-installed.

NORMA MADE SOME STRUCTURAL CHANGES to bring the house up to modern standards. The upstairs bedroom in the old part lacked storage space, so she built a wall of closets. There were two upstairs bedrooms in the 1900 frame part. One of them became a bathroom, the other a walk-in closet.

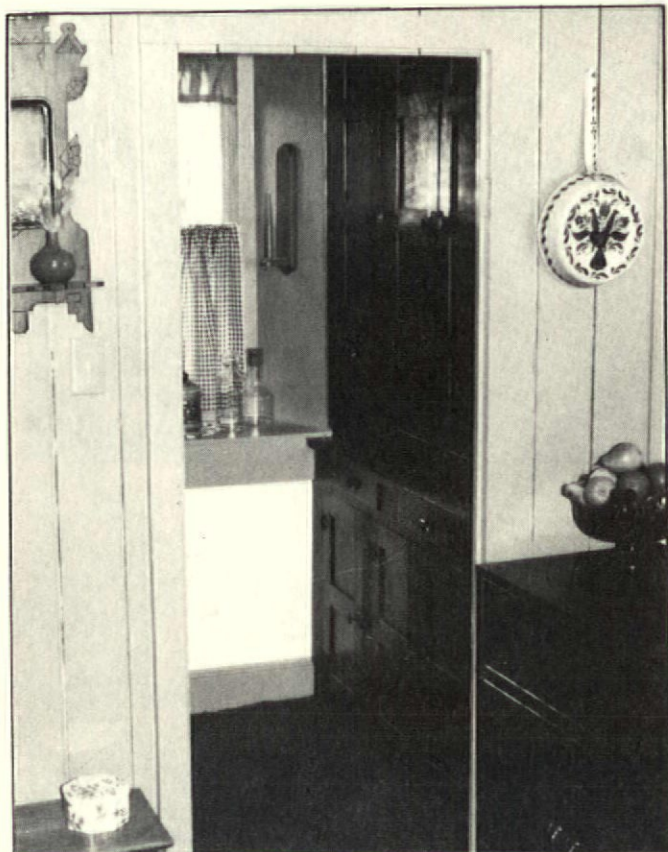
ALL THE LATH AND PLASTER was stripped. It was the old-fashioned kind...thick and strong. Norma insulated the house and installed a vapor barrier.

POWDER POST BEETLES had feasted on the floor joists and support beams for the first floor, so these had to be replaced.

NORMA'S BROTHER is in the heating and air conditioning business and he designed the forced air furnace heating system. On a 90 degree day they were up in the attic installing the ducts.

IT WAS JUST AS HOT when Norma did the work she really hated--the messy, boring job of installing, taping and finishing too many square feet of drywall.

NORMA RECALLS what a delightful contrast it was working on the wood trim outside in beautiful spring weather. All the wood was of a



The renovated pantry with the once water-stained and sagging pantry cabinets restored and refinished. Around the window note the thickness of the walls in the stone part of the house.

particularly hard pine that responded beautifully to a scrubbing with trisodium phosphate and a hosing down. She refinished it with Amity stain and varnish, products she could find only in antique stores.



Norma did much of the preliminary work before professionals came on the job. Here she is drilling holes for the power lines through 18-20 in. of the fieldstone. It was a three hour job.

BUT BEFORE THE FUN of woodfinishing, there were more basic jobs. Every window in the house had to be puttied. Instead of replacing the old ropes and weights, tracks were installed.

NORMA STAINED the exterior clapboards brown, the wood trim was painted white. The hardwood floors in the living room and dining room were sanded and refinished. Norma and her friends built the cabinet bases for kitchen and bath, but professional labor was used for the countertops.

NORMA ALSO SOUGHT PROFESSIONAL HELP for an unexpected and very expensive job. There were 32 feet of live honeycomb and two large swarms of bees on the walls...honey dripped for days!

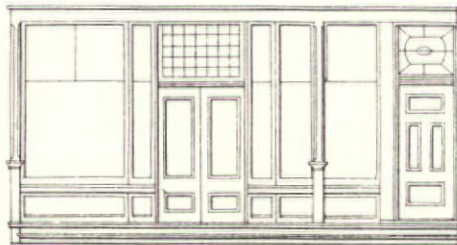
ASIDE FROM THE FRUSTRATING DELAYS caused by bad weather, there was one other problem that Norma had to take care of. The stairwell going to the second floor is only wide enough to allow someone carrying hand tools to use it. She had to cut a slot in the living room ceiling and the bedroom floor above it to pass up lumber, sheetrock, the four-piece Corning shower unit and mattresses.

THIS SLOT WAS THE CAUSE of Norma's one near major disaster. She was working alone one weekend taping wallboard ("All friends and family vanished when it was time for that task!") in the bedroom above the living room. An unused 4x8 sheet of drywall was in her way so she started to carry it across the room when much to her surprise she stepped into the slot going down to the living room and crashed through to the living room floor.

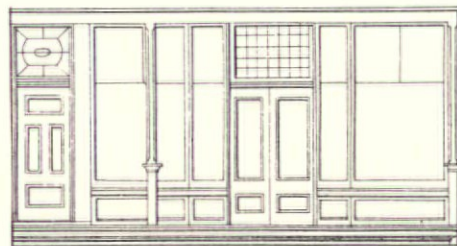
LUCKILY, she landed near the telephone and was able to pull it off of the table onto the floor and summon help from a neighbor. A glass of wine and a half-hour later, Norma was back at work! ■ ■



Ceiling in the living room is where the slot was to pass through the lumber, sheetrock, etc. Both the living room and dining room have lovely bevelled and cut glass transom windows.



The Art Of Graining



By Nat Weinstein

Part II

This is the second part of the article by Nat Weinstein on graining. The first part appeared in the December 1978 issue.

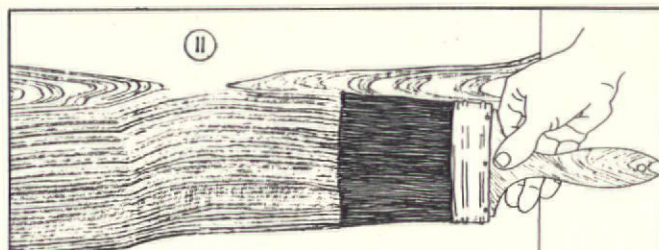
NOW WE ARE READY FOR TOPGRAINING. Dip your topgrainer into the glaze. Shake the topgrainer thoroughly to remove excess glaze. (Too much glaze will tend to run and smear, especially when working down on a horizontal surface like a table top.)

NOW TRACE OVER the previously executed heart-grain pattern with the topgrainer. It will superimpose the sharper grain lines usually found in the heart of walnut. (See illus. #10). Now, immediately following topgraining, sweep it lightly with the tips of dry brush, moving from the open end of the grain toward the closed end. (See illus. #12).

ANOTHER OPTIONAL FORM of this sweep blending is to modify the sweep by very lightly dragging the tips of the dry brush in one inch or so jerks in a similar manner to the sliding stipple operation described earlier.

WHEN EXECUTING the latter sweep-blending, a little sidewise wiggle every five or ten in. or so adds a little extra interest. A sharper topgrain will result if the glaze is allowed to set a few minutes before tracing over it with the topgrain.

PRACTICE STIPPLING AND TOPGRAINING at longer and shorter intervals after application of the glaze. A variety of subtle patterns are possible through timing control. For sharper topgraining, a little of the glaze may be put in a separate container and darkened. Add a little raw or burnt umber or even lampblack.

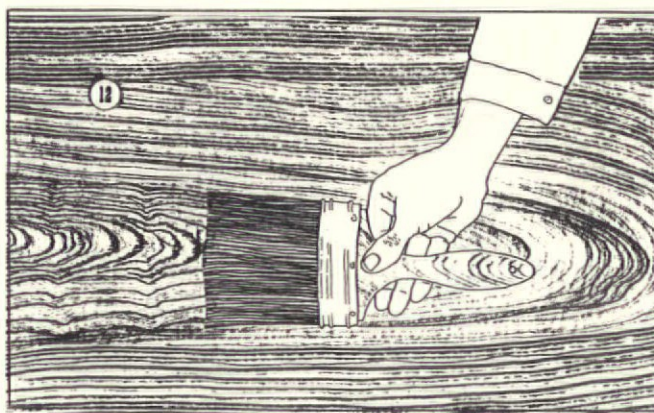
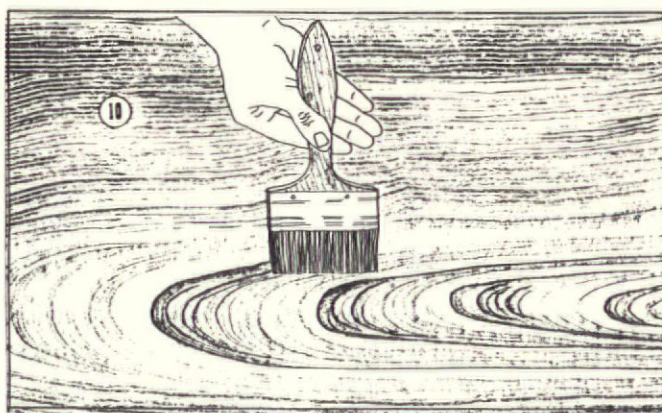


After heart growth has been executed, straight grain is produced by dragging dry brush through the still-wet glaze. Grain is curved to follow outline of the heart growth; grain lines get straighter as you work toward the edge of the board.

Adjusting The Glaze

AFTER FAMILIARIZING YOURSELF with the action of your glaze, you will most likely need to adjust it: You may want to make the shade deeper or lighter or alter the color.

PERHAPS YOU HAVE already tried to fine-tune your glaze color with little success. Even a competent color mixer of ordinary opaque paints may run into problems with a glaze. Mixing the glaze is more complex since the final effect depends on the interplay between the ground coat and the glaze. In attempting to match your walnut sample you may not have tinted your undercoat exactly right. Whatever the cause, when you reach the point where it seems that you keep passing over your target color--first getting it too dark, then too light or perhaps too rich or too dark--the problem may be solved by adding a small amount (a tablespoonful or so) of white undercoater.



Adding the white pigment makes your glaze greyer and more opaque. This can compensate for a too-intensely colored undercoat.

PERHAPS YOUR GLAZE is setting too quickly. Adding a small amount of oil will slow it down.

ON THE OTHER HAND, when the glaze sets too slowly, thus flowing together and causing the grain effects to blur or even vanish, the addition of a little varnish or thinner or both will counter this unwanted effect. Spreading the glaze further--extending the same amount over a larger surface--also helps to prevent the glaze from flowing back together.

WHEN YOU ARE SATISFIED that the glaze is working right and you have a feel for the techniques and timing, you should wipe off the table top you've been using for practice. Now you are ready to begin graining in earnest.

Graining Doors

DOORS SHOULD BE LEFT on hinges for easiest handling. Remove obstructions such as door knobs, keyhole plates, etc. When graining panelled doors, do not attempt to coat in the entire door at once. It will set up before you can grain it all. The panels should be coated with glaze and grained first. (If more than one panel, complete them one at a time.) The horizontal boards (rails) are done next and the vertical boards (stiles), last.

THE REASON for this order becomes clearer in the doing. You will see that it is based on the capability of each succeeding application of the glaze "erasing," so to say, the unwanted overglaze left from the immediately preceding operation. You will find it easy to

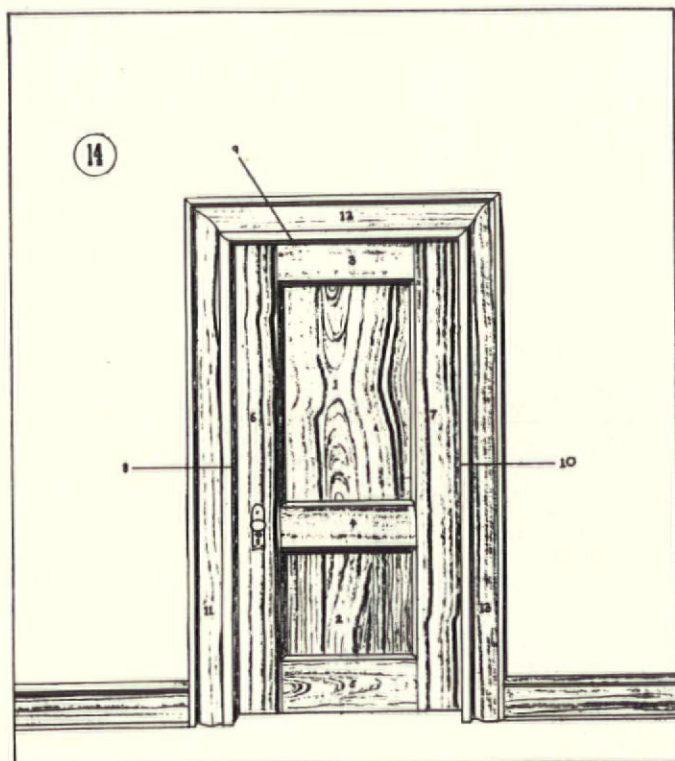
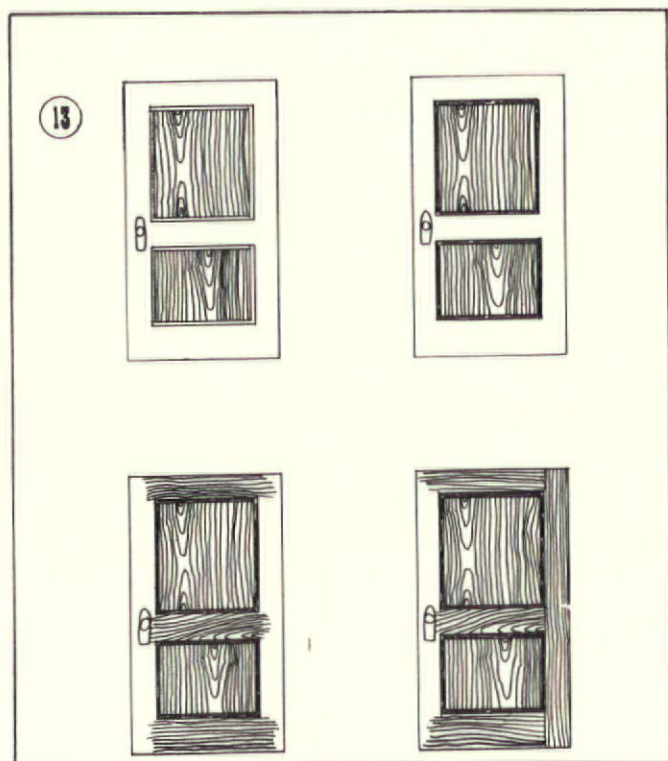
sharply separate the "boards" neatly from each other at the appropriate places--just as it would be if the door was real natural finish wood. (See illus. #13)

TECHNICALLY, graining the inside of the panels presents a slight difficulty. The glaze sometimes accumulates at the top and bottom where the dry brush must begin the stippling operation. The glaze may appear darker or more opaque at these points because the surrounding molding inhibits an even distribution of the glaze. This problem is usually solved by gently stabbing with the tips of the dry brush up toward the molding. This will pick off some of the piled-up glaze.

THE HEARTGRAINING and topgraining steps present no special problem in doing the panel. After the horizontal pieces--the rails--are grained, an overglaze will be left on the stiles. As previously indicated, this is readily dissolved when the glaze is brushed over the stiles. A sharp straight cut should be made at these junctions. The applicator brush should not contain too much glaze--squeeze the excess out of the brush--otherwise the glaze may bleed over into the finished area. If this should happen do this: Using the tips of the dry brush, gently sweep horizontally from a few inches inside the rail out toward and into the stiles on each end. Then drag and stipple the stile again with the dry brush.

THE DOOR CASING should be done last. Do the pocket (the inside of the casing) first and the facing last. (See illus. #14)

A FINAL NOTE ON GRAINING the panelled door. Watch out for a busy pattern resulting from too many heartgrains. Or a too-symmetrical wallpaper-like pattern. ■■



(Stove in Fireplace--Cont'd from pg. 1)

which supports the original fireplace floor, walls and chimney.

ONE DAY we visited a foundry where they were re-casting pot belly stoves from the original patterns. We bought a small one (30 in. high, 14 in. wide, with a 10 in. firebox.) These old stoves operative with a five in. dia. flue pipe that was usually elbowed into a nearby chimney. Sometimes the flue was simply extended through a window pane where it was directed up alongside the house.

Installing The Stove

WE HOPED that installing the stove would enable us to use the fireplace without changing the existing structure. Our answer, after three winters, has proven workable. We measured the distance between the fireplace floor and the underneath of the slab that rests atop the chimney. From this we figured out how many sections of five in. dia. galvanized flue pipe we would need for the job. At this point, there were several problems.

THERE WAS A CURVE IN THE CHIMNEY; would the installed flue bend enough? How to get it up? How to keep it up! How to get a five-in. pipe through a four-inch damper? I found that the flue pipe could easily be deformed into an elliptical cross-section shape and spring right back. This meant we could probably insert the pipe, section by section, from the fireplace, fastening each piece together as we progressed the pipe up the chimney.

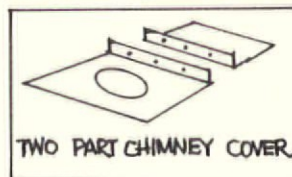
HOWEVER, it seemed quite probable that the longer the pipe got, the greater would be the chance that it would tilt back into the chimney wall and jam, especially because of the forward location of the fireplace and the rough, fieldstone walls. Just in case, I securely fastened a loop to the top (and first in) piece of pipe. Before inserting this piece, I passed a rope down the chimney and secured it to the loop on top of this initial flue-pipe section. I also prepared a clamp with which I planned to secure the flue at the top of the chimney.

WHILE THIS CLAMP is very simple, it is also very important. Using angle iron, I fabricated a shape a little like the tic-tac-toe diagram with little pieces of angle iron bolted on at the right places to keep the thing from moving back and forth and possibly tilting down into the chimney. Then I made a clamp which was simply two hefty pieces of flat strap iron bent to each form a half circle with "ears" bent out and drilled to accept a nut and bolt.

I MADE THESE HALF CIRCLES the same diameter as the flue, but not quite exactly half circles. The reason for this was to be able to obtain a clamping action by drawing the bolts up tight (but not too tight as this would distort the flue pipe). I also arranged for the clamp, while resting on top of the frame, to inter-

lock with this frame and thereby prevent any possibility of things twisting, or otherwise working loose.

OF COURSE, while up on the roof for the first inspections, I exactly measured every part and angle I could think of. This is very necessary due to the uneven methods of construction, and is helpful in any project as it is so nice to have the measurement you want on a piece of paper next to you when you want it. While I was fashioning the frame and clamp, and had the measurements, I also made a two-part cover for the chimney. One had a hole cut in it so I could pass the flue through it and have it located between the frame and the



chimney top. The other simply would take care of the other part of the opening of the chimney. It was easier to make this cover in two parts, and they bolt to each other.

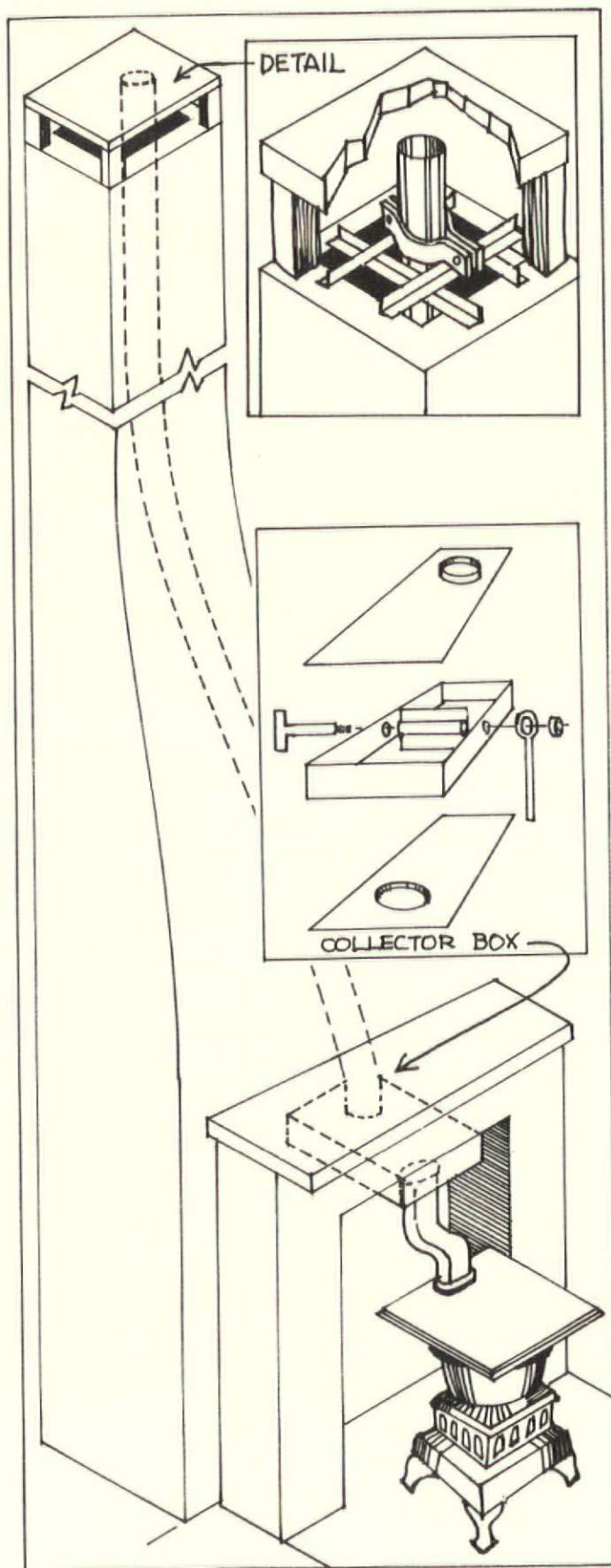
THIS PREVENTS birds and squirrels from getting into the chimney and excess (not needed now) draft from removing air from the room in which the fireplace is located. Please note that in no way did I interfere with the opening of the flue-pipe itself!

IT WAS NOW TIME to put the pipe up the chimney. I went up top and put the rope down. This we fastened to the first piece and then started fastening them together. The flue pipes are arranged to slip together with an overlap of two in. and can be held by friction, however, I decided to secure each one to the other with a steel screw. All went well for about six sections, and then the thing tilted and jammed into the wall. Plan "B."

FROM THIS POINT ON, I would go up top and pull a section-worth up; my wife, who was shoving from below, would prop the whole thing with a pretzel can, and I would come back down to do the drilling and fastening. We repeated this procedure until all sections were up and securely clamped. It was a satisfying sight to see that pipe hang down into the fireplace! The last steps would be to insert a damper, attach the flue to the top of the stove and start a fire.

HOWEVER, as we had such a close clearance and wanted to have the stove as forward in the fireplace as possible, I decided to make a "collector box" for the gases which would have the damper incorporated into it. I brazed together a rectangular box (11 in. deep, 8 in. wide, 2 1/4 in. high) with an elliptical entrance in the lower front and a round exit in the upper back. I made a butterfly valve in the middle. The metal for this box is 1/16 in. iron plate. I brazed it heavily, and tested it to the extent of having such a hot fire that the box got a dull red with no ill effects.

I HAD TROUBLE with the butterfly valve flopping shut when I didn't want it to. This was corrected by fitting a large round washer on one end of the valve's shaft over which hangs a brake. The brake is a length of pipe (for a little weight on a lever arm), which is hung over the washer by means of a narrow piece of



thin flat iron made into a shape just a little larger than the washer.

I CHOSE THIS METHOD over some kind of spring or clamp because it is not affected by heat, expansion, or age. It can't fail. After the first season's use, I began to worry about the possibility of one of the screws breaking off or something going wrong which might cause the flue to come down. To ease these fears, I put a pipe brace from the hearth to the bottom of the collector box. I feel sure the flue will hang in there with no problems, but I still feel better with a back-up brace in case.

Replacing The Stove Top

AS NOTED ABOVE, we bought a stove of such size as would fit into the fireplace and would not be too close to the mantel. As often happens, the foundry began re-casting more old patterns after we had bought one. One of the patterns redone was a flat top for the firebox instead of the pot belly top. The old-timers were thrifty and made as many parts interchangeable as possible--a far cry from planned obsolescence!

AFTER USING THE POT BELLY set-up for one winter, we found the flat laundry stove top was being made. We bought one and installed it in place of the first top. This set-up we have used for two more winters. It has been a splendid source of heat.

Fire: Friend Or Foe

IT IS IMPORTANT to realize that if you install this or a similar set-up, you are bringing fire inside your house. It can very quickly and disastrously switch from friend to foe. Any installation should be at least two feet from combustibles. Our installation was perfect in this regard, as it is bounded by the fireplace brick. Another danger is the hot coal which will eventually pop out of the stove when you are tending it. If you have a mitt or a coal shovel and poker handy, it is a short-lived problem.

IF YOU HAVE TO GO and get something, when you come back you may have at the least a nice hole in the floor, and at the most, a nice fire where you don't want one! You should have either a bucket of water or a fire extinguisher, or a preconnected garden hose near. Another problem with this auxiliary source of heat is that it is uneven. To be sure, this room in which I am cozily typing is comfortable. As this room has the thermostat, the rest of the house is chillier the farther from this central room.

HOWEVER, we do not really need a lot of heat in the bedrooms (our grandparents had none.) As for my study on the sunporch, it is possible to do long projects in this room when it gets very cold, just as I am doing now.

THE SAVINGS OF OIL for us have been very great. We also noticed that the other chim-



This is a side view of the Rev. Souders' house in Philadelphia, Pa. A sunporch, and various other additions have been made to the house over the years.



In this close-up photo of the fireplace and stove, you can see the piece of aluminum wedged in place behind the stove to direct warm air into the room.

ney in the house which has been pressed into service for the oil burner used to get so hot that the wall was too hot to touch. The wallpaper cracked one cold night when the oil burner was puffing away continuously. I am happy to report that last year, the coldest I remember, the oil burner did not work as hard as previous, much milder, years. That chimney has been only warm (which is expected) and a whole lot safer.

Safety Notes

WE DID HAVE ONE SCARY EXPERIENCE about which I would warn you. As my design did not provide for a clean-out at the bottom of the flue, the soot which collected on the inside of the pipe through the heating season all fell down during the summer. When I stuffed the stove with paper and wood to light it for the second season, I filled the room with smoke in about ninety seconds.

FORTUNATELY, the fire, having no vent and being contained in a cast iron stove, only produced volumes of smoke, which I was able to remove immediately as the window fan at the top of the stairs was still hooked up and ready to turn on. I did not want to put water on the stove and risk the danger of cracking the iron, but would have done this if the flames had come out into the room. I have since found that it is sufficient to clean out the collector box once a year at the beginning of the heating sea-

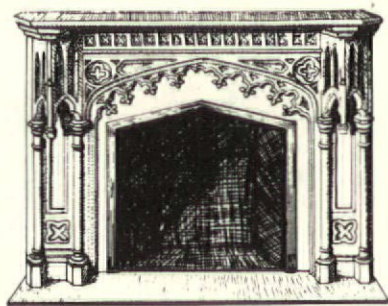
son, but for safety's sake, clean it out twice during a season's use.

IT IS ALSO IMPORTANT to make sure that the damper cannot be fully closed so that the heating equipment is properly vented, avoiding the danger of coal gas. Commercial types accomplish this by having a hole about the size of a half-dollar in the center of the butterfly. I accomplished this same result by making the butterfly not quite as wide as the box.

THE TOP OF OUR CHIMNEY has a two-in. thick slab covering it. It serves as a crude spark arrestor, prevents downdrafts, and keeps things somewhat dry. I ran the flue pipe up to within 2½ in. of this slab.

IT MAY SEEM STRANGE to some to derive satisfaction out of reversing progress, and now having to tend to an old-time heater, when automatic equipment abounds. Our forbears looked to escape the continual drudgery of devices that had to be tended and cared for. But they also had benefits from them which they probably did not know. There is something personal about that little heater and the teapot which whistles atop it all day long, and something comforting about the measure of independence it promises if our modern devices or supplies should fail for a while. And there is something mystical about hearth and home, heat and fire, and the mastery of the same for beneficial purpose. ■■

Restorer's Notebook



Cleaning Marble Mantels

THE ONCE WHITE MARBLE MANTELS in the parlors of our late Victorian house showed the results of decades of neglect. One was dirty and yellowish. The other was dirty and greyish. Fortunately, they had not been covered with paint, although one of them was spattered with the results of a sloppy blue paint job.

I TRIED THE METHODS outlined in an article in *The Old-House Journal* in June 1974. The marble did get lighter—but not enough to satisfy our wish that the mantels look as white as they did when the house was built in 1874.

MY IN-LAWS had given us an old pamphlet on cleaning stone using the products of the Vermont Marble Co. in Proctor, Vt. Failing to find a retail source for their products, I called the company and was sent product literature and ordering information.

WHEN I RECEIVED the Vermont Marble Cleaner, Poultice Powder and Vermarco Detergent, I set about making up batches of poultice according to the directions. My goal was a poultice with a plaster-like consistency, but I didn't think there was enough powder—so I went easy on this material and used more of the detergent.

I APPLIED MY MIXTURE to the mantels with a putty knife. (Getting the poultice to stay in place on the slippery vertical surfaces of the mantels took some effort.) Having applied the poultice to approximately a half-inch thickness, I covered everything in plastic wrap... to keep the poultice from drying out. The plastic wrap stuck neatly to the surface of the poultice—and then I covered the entire mantel with a large plastic sheet. During the 48-hour waiting time, it was necessary to re-wet the poultice a few times with a plastic spray bottle, after carefully lifting up the plastic wrap.

I THEN CAREFULLY removed the poultice with a putty knife (taking care not to scratch the marble), and washed the marble with water using soft brushes (a toothbrush and an old nail brush) to lift off the dirt. This takes some amount of scrubbing. A firm jet spray from

the plastic spray bottle was particularly successful in getting out the poultice and dirt from the finely detailed carvings.

THE BEFORE AND AFTER appearance of our mantels is remarkable. But as can be imagined, this is very sloppy work. Do it before the surrounding floor is sanded and finished.

Nancy Kullman
Cambridge, Mass.

Ed. Note: Vermont Marble Co. is located at 61 Main St., Proctor, Vt. 05765. Tel. (802) 459-3311. They will send a free brochure describing their marble cleaners along with ordering information.

Removing Paint Residue

WHEN USING PAINT REMOVER, there's often a problem of paint residue left down in the pores of the wood. This stuff doesn't seem to come out, no matter how much chemical and steel wool is used. The residue is especially objectionable if the paint is white.

HERE'S A REMEDY that's worked every time I've tried it. Get the wood as clean as possible using paint remover and steel wool. Then coat the wood with orange shellac (just as it comes from the can). Let the shellac dry overnight. Then apply more paint remover to lift the shellac. As the shellac is scrubbed off with the steel wool, the paint residue should come out with it.

I DON'T KNOW why the shellac pulls the paint up out of the pores, but it seems to work—at least the three times I've tried it.

Eleanor James
St. Louis, Mo.

Repairing Bathtub Grout

HERE'S A SURE-FIRE METHOD for making a near-permanent repair to a messed-up edge of grout or caulk around the top edge of a bathtub:

- (1) Remove all loose grout, old caulk, etc.
- (2) Clean the surface with a cleanser like Comet and rinse. If a mildew problem exists, use Clorox (1 part to 4 parts water). Let the Clorox sit on the mildewed areas for 5-10 min., then rinse.
- (3) Fill the tub with water to maximum height.
- (4) Use a latex or siliconized tub cement or grout. (General Electric makes such a product; the premixed variety is very good.) Stuff the material into existing cracks and corners. Let it dry partially (about 30 min.), then wipe off excess with a damp sponge and buff the tiles dry with a soft cloth.
- (5) Leave the water in the tub for at least 24 hours. If possible, avoid using the tub for at least 4 days.

FILLING THE TUB with water is one of the secrets of this process. If you re-grout with the tub empty, when it is filled with water for the next bath, it will start to pull away from the new grout. A full tub weighs many hundreds of pounds and will substantially deflect the beams supporting it. By grouting with the tub full, you have opened the crack at the top of the tub to the maximum amount.

Douglas White
Brandamore, Pa.

Hard-Water Deposits

I HAVE RESTORED several old homes and this one problem always seems to crop up: Finding deposits of lime and other minerals in the bathtub from the hard water.

SOLUTION: Scrub the tub with vinegar. It works like a charm. You can use vinegar to remove hardwater deposits from other places, too, such as the inside of water kettles.

Frederick A. Mohler III
Lancaster, Pa.

Patching Plaster Holes

WE FOUND A STRONG, simple method for repairing missing patches of plaster. Use a piece of brown paper to make a pattern of the hole. Then you can cut a piece of sheetrock to the corresponding size.

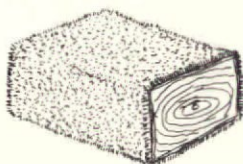
WHEN NAILING THE SHEETROCK in place, you may need thin strips of wood under it to bring it up to the level of the rest of the plaster. On brick, of course, it would be necessary to use masonry nails.

TAPE THE EDGES of the patch with dry wall compound and dry wall tape. When dry, another coat of compound over the area will provide the finish coat.

Gail Niedernhofer
Nokesville, Va.

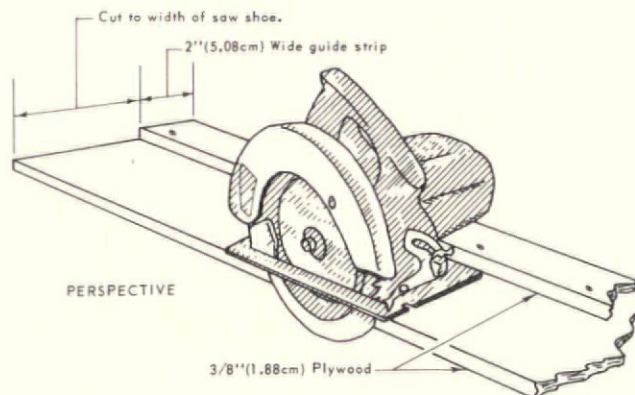
A Safe Nail Puller

WHEN DOING finish work, it is common knowledge that you should pull bent nails from wood by placing another block of wood in between the hammer and the wood being worked on.



HOWEVER, even this method can mar wood with a fine surface unless another precaution is taken. Use a piece of carpet and tack it to the pry block. Better yet, use contact cement to attach the carpet. I keep such a covered pry block in my tool box so it's always handy.

Karl Winneker
Placerville, Calif.



Saw Guide

HERE IS A SIMPLE, inexpensive device for cutting large pieces of plywood in a safe, accurate manner with a portable power saw. Cut two 8-ft. strips of 3/8-in. plywood as accurately as you can on a table saw.

CUT ONE STRIP 2 in. wide and attach it securely with glue and nails to the top of the wider piece—making sure both pieces are flush on one side. Place your portable saw on the wide piece, with the left edge of the shoe against the edge of the 2-in. guide strip, and cut the wider bottom piece of plywood to the proper width as shown in the sketch above.

YOU NOW HAVE a handy straight edge for making accurate cuts regardless of the angle. Use two "clothes pin" type wood clamps to hold it in place while cutting. It can also be tacked lightly in place for jobs like trimming the edge of a roof.

David R. Milner
National Park Service
Umpqua National Forest, Ore.

Paint Remover Trick

SOMETIMES, when removing multiple layers of paint with chemical removers, the volatile components evaporate before the paint layers have softened all the way through. If left on too long, the paint remover merely dries out, leaving a skin that is difficult to scrape off.

SOLUTION: Place wax paper over the surface after the remover has been applied. It will continue working for as long as necessary.

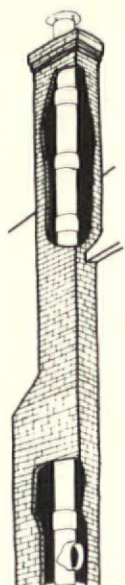
John P. Duffey
Kensington, Md.

Got Any Tips?

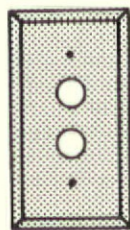
Do you have any hints or short cuts that might help other old-house owners? We'll pay \$15 for any short how-to items that are used in this "Restorer's Notebook" column. Send your hints to: Notebook Editor, The Old-House Journal, 199 Berkeley Pl., Brooklyn, N.Y. 11217.

Products For The Old House

Chimney Liner



OLD HOUSES often have unlined chimneys. Creosote attaches itself to brick and mortar and can cause chimney fires. A chimney liner protects the house in the event of fire. An easy-to-install chimney liner is sold by the Bow & Arrow Stove Co. The Vitroliner is made of heavy gauge metal, coated on both sides with a vitreous enamel. It comes in sections (the largest is 3 ft. long) so it can be easily shipped. Most homeowners will be able to install it themselves or a chimney contractor can be called in. For a free brochure and price list, write to: Bow & Arrow Stove Co., Dept. OHJ, 14 Arrow St., Cambridge, MA 02138. Tel. (617) 492-1411.



Brass

Switch

Plates

ARARE ITEM these days is the old-fashioned wall switch plate with round holes for push buttons. Solid brass single (2 holes) and double (4 holes) are available from the Renovator's Supply. They are \$3.70 and \$4.50, with quantity prices also available. Add 8% shipping and handling. For \$1.25 you can also get their 34-pg. catalog that is crammed with hard-to-find hardware and supplies for restorers. Write: The Renovator's Supply, 71 Northfield Rd., Millers Falls, Mass. 01349. Tel. (413) 659-3542.

Helpful Publications

Money For Preservation

IN A NUMBER of localities throughout the country, the revolving fund has proven to be an effective and indispensable tool in the preservation of historically and architecturally significant properties. The impact of the revolving fund is primarily psychological and catalytic. Rehabilitation and construction in deteriorating areas often encourages further investment and rehabilitation.

THE HERITAGE CONSERVATION and Recreation Service, a branch of the U.S. Government, has published an informative brochure that discusses the Historic Preservation Fund Grants as a potential source for local and statewide revolving funds.

FOR A COPY, write to: Heritage Conservation & Recreation Service, Pension Bldg., 440 G Street, N.W., Washington, D.C. 20243. Ask for Supplement 11593—Vol. 3 No. 3 (October 1978).

Slide & Tape Presentations

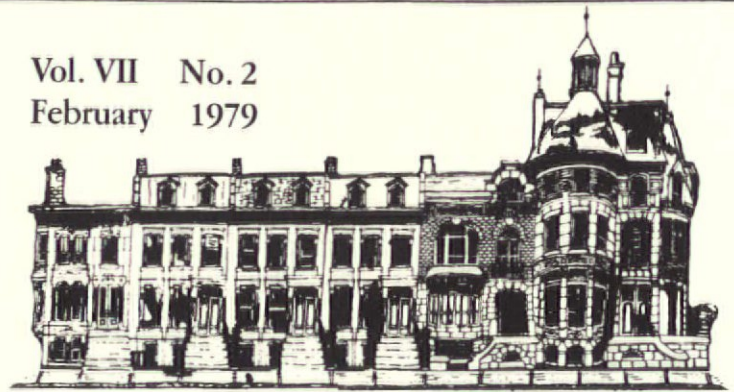
ARE YOU PLANNING a restoration workshop, conference, etc., and can't line up an expert speaker who is an authority in the field? The American Association for State and Local History may have a solution for your problem.

THEY HAVE PUT TOGETHER seven kits, each of which includes 78-80 slides—along with an illustrated script and cassette tape. Subjects that are particularly relevant to the homeowner audience are: Victorian House Colors--Exterior; Wallpaper And The Historic House; Reading A Building--Colonial, and Overall Planning For House Restoration. Other titles include: Curatorial Care--Environmental and Furniture.

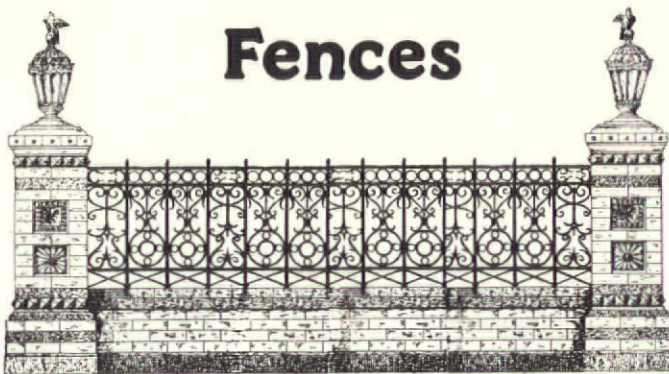
THE KITS are \$22 each. To order, or for a free brochure, write to: Mary Howse, American Association for State and Local History, 1315 Eighth Ave., So., Nashville, TN 37203. Telephone: (615) 242-5583.

THE OLD-HOUSE JOURNAL

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Restoration And Maintenance Techniques For The Antique House



Fences

By Frederick Herman, AIA

MAN TENDS TO TAKE a view of fences that is varied and, all too often, opinionated, yet fences have been and are still very much with us. As the world gets more crowded we seem to be becoming more and more conscious of them both from an aesthetic point of view and as a means of defining and securing our own personal bit of the landscape. One sometimes wonders if we are not heading back to the medieval world with its enclosed and very private castle garden.

MOST OF US, however, are more interested in the immediate problem of what kind of fence is appropriate for our purpose, and how do we get it put up, rather than in the philosophical speculation of man's relationship to his garden.

A Dividing Frame

FENCES ORIGINALLY WERE visualized as purely utilitarian structures serving to keep animals and men in or out of certain areas, to set off areas for specific uses, and to somehow or other act as "a dividing frame."

IN THAT BROAD TERM "fences" include: Divides built of any

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Coming Next Month

INSTALLING TIN CEILINGS

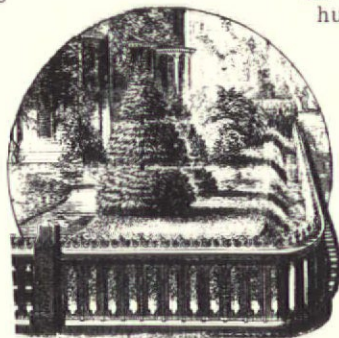
number of materials including brick, stone, earth, concrete, assorted plants, metal, wood, and today one would have to add plastic to the list or combinations of two or more of these materials. In appearance, they have ranged from the very utilitarian barbed wire (a fairly recent invention) and Virginia Rail Fence (a favorite of the early settlers) to highly ornamental and vastly expensive wrought iron fencing, the purpose of which was to display power and wealth as much as to be a barrier.

THE VARIETY OF FENCES is bewildering. Their designs not only change with periods of history but also from region to region, from urban areas to rural areas, with changes in land useage (i.e., farming vs. animal husbandry), availability and cost of materials, new technology and changes in aesthetics.

ONE CAN RAISE the question as to whether there really exists such a thing as a "typical fence." The problem is further compounded by the fact that most fences, and especially wooden fences, are ephemeral.

"WOOD, EVEN GOOD CHESTNUT, oak,

(Continued on page 18)



Insurance Policy For Historic Homes

GETTING INSURANCE on old houses has been a vexing problem. (See OHJ, Dec. 1977.) Now, on the insurance front, there's some good news...and some bad news. First, the good news:

THE ST. PAUL INSURANCE CO. has introduced a "historic home policy" designed to provide reasonable fire insurance coverage for privately owned homes that are architecturally and historically significant to the area in which they are located.

NOW, THE BAD NEWS: The policy will not be available to every old-house owner in the United States. There are two basic limitations: (1) The home must either have been nominated or be listed in the federal government's Register of Historic Places, or be in a historic area designated by federal, state or local government. There are roughly 250,000 houses in the United States that fall into this category.

THE SECOND LIMITATION is that the policy—at least according to current plans—will only be available in 23 states. Insurance Departments in 19 of those states have already given their administrative approval; responses are pending in the remaining four states.

AS OF FEBRUARY, The St. Paul has introduced the policy and is now ready to accept business from independent agents in the states of Alabama and Mississippi.

BY THE END OF MARCH, insurance agents in the following states will be offering the historic home policy:

Arkansas	North Dakota	Colorado
Georgia	Oregon	Delaware
Indiana	South Dakota	Idaho
Maryland	Tennessee	Pennsylvania
Montana	Utah	Vermont
Nevada	Wyoming	

THE ST. PAUL CO. is awaiting Insurance Dept. response to the new policy in the following states: Kentucky, Nebraska, Ohio and Illinois.

OLD-HOUSE PEOPLE have experienced two basic problems in getting adequate insurance coverage for homes they are restoring. The first problem is one of geography: Many old houses are located in neighborhood that insurance companies often consider high risk areas. These areas become "redlined": The insurance companies decline to insure any property within the area, no matter what the condition of the property or the financial integrity of the owner.

THE ST. PAUL CO. earlier this year issued a company policy statement against redlining—and said that the company's anti-redlining stand would apply to the historic home policy as well.

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THE SECOND PROBLEM old-house people have encountered is the "co-insurance clause." (This was explained in detail in the Dec. 1977 article). Basically, if a home is not insured for at least 80% of its REPLACEMENT COST, on the regular homeowner's policy the property is not fully covered in case a loss occurs. With old houses, of course, there is great difficulty in computing replacement cost: How do you replace a carved walnut staircase, an elaborately decorated ceiling, or an elegant marble mantel?

THE NEW HISTORIC HOME POLICY provides a modified replacement cost clause. It provides the flexibility of choice of an amount of coverage ranging from 100% to 40% of replacement cost—subject to a \$30,000 minimum. A company official declares: "The conventional homeowners' replacement cost provision was never intended to cope with the high cost of replacing damaged fine arts features of a historic home with the same materials and high level of craftsmanship.

"IN SOME CASES, a dwelling's entire significance may rest on such outstanding features—features that would be prohibitively expensive to repair or replace. In such cases, for an agreed amount, the St. Paul will provide a valued endorsement to specifically insure important features for an agreed-on amount."

THE CRITERION for this program that the house be either on the National Register or in a historic district is another argument for the homeowners' stake in historic district legislation. The St. Paul Co.'s insurance program is probably not the last private industry or government program that will be built around historic districts. So if your house is not now on your state or National Register, nor part of a historic district, you (and your neighbors) will probably benefit in the future by seeing what can be done to obtain historic designation.

From Tenement To Town House

By Nancy Kullman

MY HUSBAND AND I have been laboring for the past five years to make livable and attractive our 12 room Second Empire house in Cambridge, Massachusetts.

WITH THE EXCEPTION of the roof, floor sanding, reconstruction of one fireplace and some final-coat ceiling plastering, we have done all the work ourselves. This includes wall-papering and the other work involved in decorating those rooms that we've finished.

I DO NOT APPLY the term "restore" to our work, because scholarly, historical accuracy has not characterized our efforts. Rather, we have both in our basic work and in planning decor, tried to be true to the house and restore or maintain the feel of a mid-1870's house.

OUR INTEREST in an antique house was pre-dated by an interest in antique furniture, and it was to find a suitable environment for our antiques as well as ourselves, that motivated our purchase in June 1973 of a big old wreck of a house.

THE HOUSE and its five neighbors had all been held by a single owner whose intention was to get as much rental income as possible until the time was ripe to sell the land for a high-rise apartment. However, the community organized to "downzone" the area and upon their success, all six houses were put on the market. All were purchased by owner-occupiers who have since restored and renovated their properties. Now, with a little imagination, when you look down our street you can really look back in time to when the area was a fine, middle class academic neighborhood.

WE PURCHASED OUR PARTICULAR HOUSE because the least structural changes had occurred. But it had been a student tenement for 20 years and the transient tenants had left their mark. When we moved in there was no room that did not require a thorough overhaul--floor sanding and decorating, at the least.

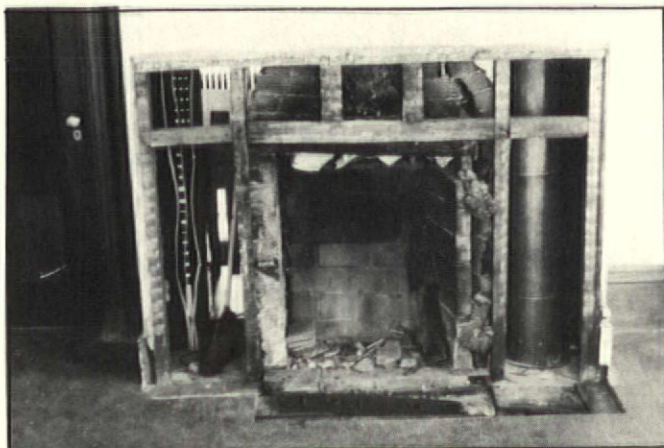
BRIAN IS A TRANSPORTATION CONSULTANT and I worked full time for the first two and a half years of ownership, so most of what we have done was accomplished nights and weekends. Brian's father is an inveterate do-it-your-



selfer who has spent years improving and adding on to the family home. Thus Brian was well exposed to the labor and art of things like plastering and plumbing, and was armed with the first requirements for our own effort--knowledge and confidence that it could be done. We needed both, since lack of front-end funds necessitated that we move right in and do the work in a piecemeal fashion. Fortunately, we had no big disasters--just ongoing chaos!



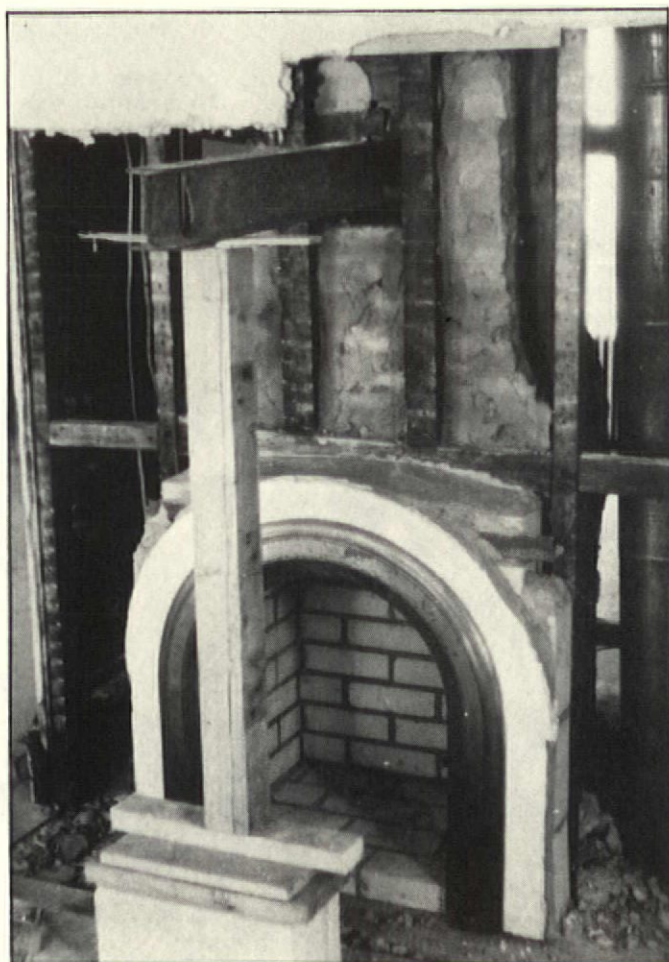
A complete rebuilding of the metal roofs on the eight dormers and repair and replacement of the rotted and missing architectural trim was done over a whole summer's weekends.



This is the back parlor fireplace opening prior to being rebuilt. Note old ducts used for plumbing and wiring to left and right of firebox and the crumbling brick on right side of firebox.



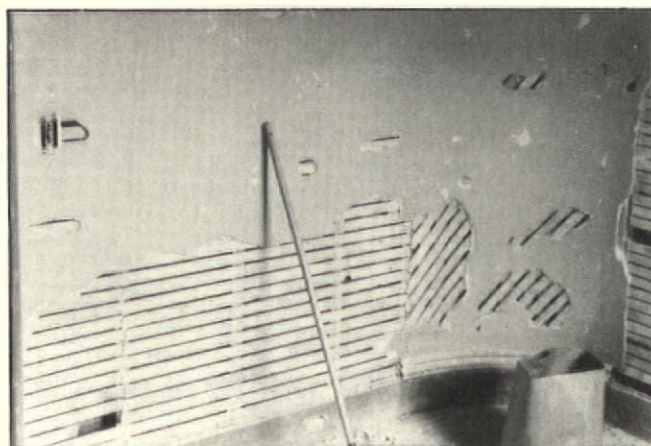
The back parlor fireplace just after reconstruction and replacement of marble mantle. The floors haven't been sanded nor the walls papered.



The firebox and bottom of the chimney have been rebuilt and connected up with the old chimney above the I beam.

MUCH OF OUR WORK was the sort that required time, patience, and attention to detail. Large sections of plaster walls had to come down. Hence, many hours were spent in installing anchors and patch plastering. All the woodwork on the first floor is walnut, and in the main rooms it had been painted white. The second floor woodwork is pine and even with 10 to 12 coats of old paint, the job seemed less taxing because I did not need to be so meticulous.

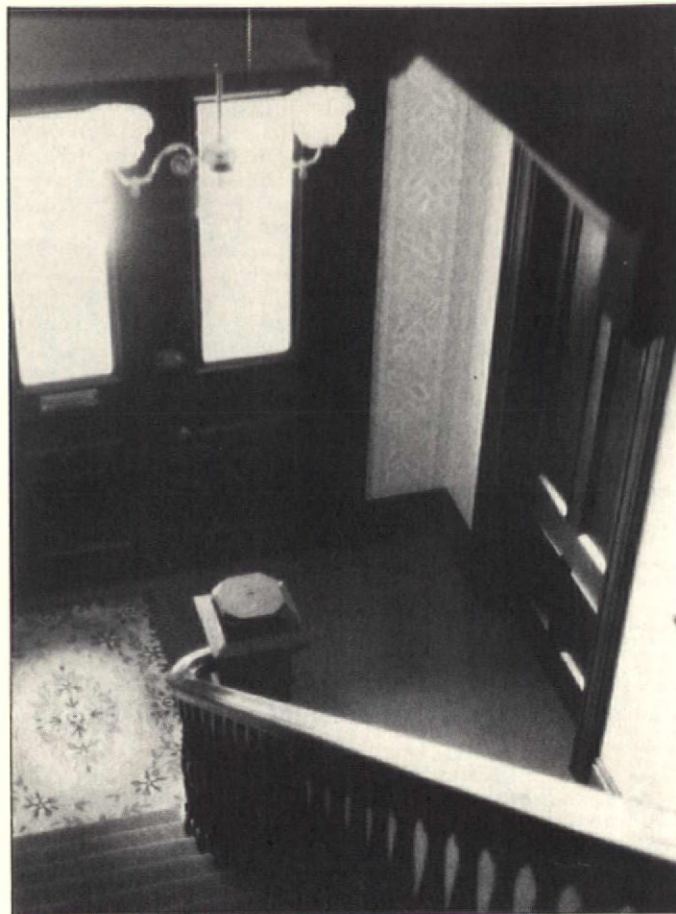
WE HAVE YET TO SEE any mention of our particular technique for refinishing walnut woodwork. First, we applied linseed oil to the wood and filled holes and cracks with wax stick, wiping off the excess with a linseed oil-dampened cloth. We waited several weeks to let the oil dry and applied one coat of Sears semi-gloss polyurethane varnish. The result is a lustrous "hand-rubbed" finish with none of the plastic look of polyurethane.



A typical area in need of patch plastering found in almost every room. This wall is in the nursery.



The center window of the front parlor bay had been replaced in the past with ill-fitting and incompatible materials. The Kullmans reconstructed the original. In order not to hide the woodwork, shirred curtains have been set into the windows.



The major job in the front hall was to strip paint off all the walnut woodwork. For the hall and the other generously scaled main rooms, the Kullmans chose large patterned wallpaper to give richness and a Victorian feel.

FINALLY, THE OLD WINDOW SASH from 10 windows was taken out and stripped professionally, the old putty removed, the wood repaired, the windows reglazed and with new cord, reset.

BRIAN REPLACED FIVE CEILINGS, and in the course of doing this repaired a sag in the dining room ceiling caused by a twisted and cracked beam most of the length of the room. A piece of 100 in. long angle steel was applied to the exposed beam as a brace and bolted in, using lally columns in the basement and above in the dining room to hold the steel in place during the operation. The sag has been eliminated to some extent, and we hope further sag has been arrested.

THE MASTER BEDROOM had been an "efficiency" apartment with kitchen facilities and had to be completely torn up. The kitchen, the floor beneath it, and fifty years' accretion of plumbing was removed and the ceiling replaced. Our ceiling work turned into a renovation job since we decided to raise the ceiling and put in a skylight.

TOWARDS THE END OF OUR WORK on the bedroom, we also started work on what is now a nursery. My doctor assured me that the baby wouldn't arrive before the room was ready. He was wrong. Brian, almost literally, rushed from the delivery room and spent the next three days madly painting and moving furniture. Now we are fixing up a second nursery. But this time we are not relying on the doctor's predictions.

OF ALL THE EXTERIOR WORK that we have done, the simplest made the most impact. When we trimmed the hedge from eight to five ft., several elderly ladies thanked us because now they could pass along one side of the property without having to sidestep into the street. Removing six or seven layers of old paint to reveal the beautiful walnut of our front doors was the other major source of delight to our neighbors. And to ourselves. For in spite of the chaotic conditions, we thoroughly enjoyed our restoration undertaking and we are proud of what we've done.

(Fences--Cont'd from page 13)

cedar or juniper rails or original growth heart pines, will last from fifty to a hundred years, so that material once in hand served one or two generations." This observation, written in 1887, points to one of the problems, i.e., the limited life span of wood.

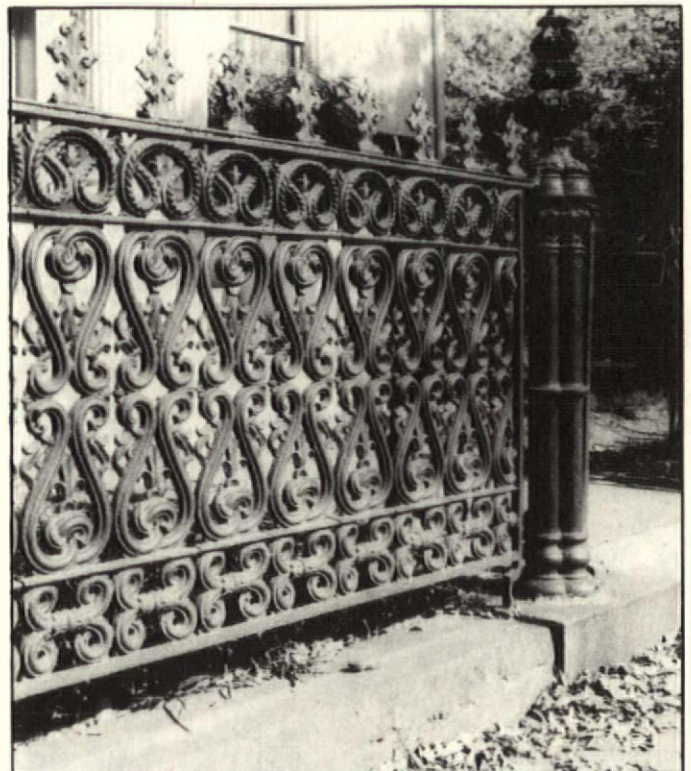
THE SECOND PROBLEM is that during the years with the sale and resale of land, fences which marked boundaries were no longer in the right place and were removed. Last, peoples' tastes changed. Fences which were popular at the beginning of the 19th century were no longer favorably regarded by the mid and third quarter of the century when Downing's influence became prevalent in landscape architecture. Another factor today is cost: Anything except the simplest of fences is becoming increasingly expensive.

STONE, BRICK, AND METAL FENCES and walls have had a somewhat better rate of survival than those made of wood. I will deal with these in this article. Wood fences which were much more common will be dealt with in a separate article.

Stone Fences

STONE GARDEN WALLS are relatively rare, and when we exempt walls consisting of piled up stones separating fields, of relatively recent date. They are found around the larger estates built in the late 19th and early twentieth century. Earlier stone walls occur with some frequency in Western Pennsylvania where sandstone and limestone was readily available, easy to work with, and cheap.

THE USE OF STONE AS A WALL for a garden should be governed by the character of the building with which it is used in conjunction. The use of no other material requires such close coordination of structure, garden, and garden enclosure as does stone. If you feel that you have to have a stone enclosure around your house, first check to see if there ever was one.



This very heavy cast iron fence (circa 1890) in Norfolk, Virginia rests on a low stone base.

STONE DOES NOT DISAPPEAR and there are sure to be visible remains of any walls that may have existed. If you can't find any evidence, a bit of research in the local library and a check with the local historical society may turn up some evidence. If this also yields a blank, check the neighborhood and see if you can find any examples of stone walls.

IN VERY GENERAL TERMS, any stone enclosure should directly relate to the house as regards the type of stone, the manner in which it is laid and the scale of the wall itself. A very good basic rule is not to use the stone if the house itself is not at least partially built of stone.

YOU MAY ALSO WISH TO CONSIDER THE possibility of an enclosure consisting of a low stone wall surmounted by an iron or wood railing with possibly stone columns at fixed intervals and stone columns at the location of gates. There also exist various attractive yard enclosures consisting of a low stone wall surmounted by a pierced brick wall having a flat stone cap which relates wall to buildings partly built of stone and partly of brick.

Brick Fences

BRICK GARDEN WALLS are more common than stone, but are almost as expensive to build today. Stylistically, they range from the well known serpentine walls at the University of Virginia designed by Thomas Jefferson to simple straight walls with or without some sort of cap which

can either be a simple projecting brick or made of special shaped brick, which can be bought at brick yards, or even fancy stone caps.

THE REAL TRICK is to select a wall which is compatible with the house and garden it is to surround. Here scale and style is of paramount importance. For example, a high brick wall would generally be inappropriate around a small house or a highly ornamental wall next to a plain dwelling. The design of the wall should, if at all possible, try to pick up an element contained in the brickwork of the house such as the watertable or a detail from the brick cornice if the house has these features. It should also use similar brick, mortar, joining and coursing.

AS IN THE CASE OF STONE WALLS, if you have an old house, some evidence will probably remain as to any brick walls which might have existed, and a little research may turn up additional information.

DESPITE THE COST, there are some valid reasons for using stone or brick and that is to use them as part of a retaining wall. In cities it is often undesirable to have your lawn or flower beds level with the street. In this case a masonry wall is ideal as it retains the earth on your side as well as defining your limits. In Victorian times, low walls serving this purpose were often surmounted by iron railings of various designs.

ENGINEERING PROBLEMS can arise where a masonry wall serves as a retaining wall. If the difference of grade from one side of the wall to the other is substantial, considerable pressure can be exerted against the wall, especially if there is the possibility of heavy rains which can saturate and make the soil plastic. Tall walls are subject to wind loads and provisions have to be made to compensate for these pressures by the introduction of piers or similar elements in the design. You should consult an architect or engineer on these questions as well as on the requirements for a foundation.

A MASONRY WALL represents a considerable investment and is quite permanent. Your best bet is to have it built to an actual set of plans and to ask some reputable masonry contractors for bids. Very few of us have the skill or training to be brickmasons and nothing is more noticeable than sloppy masonry.

Iron Fences And Railings

IRON RAILINGS come in all sorts of shapes and sizes, as well as types of iron. Iron fencing, with the exception of very formal entrance gates to large plantations, are primarily an urban phenomena and even in urban areas, they more often take the form of railings along stairs, balconies or around small front yards than long stretches of fencing enclosing large areas. The exceptions are usually fences around public complexes, such as government buildings, churches, cemeteries and similar areas.

IF YOU ARE CONTEMPLATING the installation of an iron fence, once again there is no specific rule as to what fence to get. In very general

terms, one can say that the earlier the house is, the simpler the fence should be. The other criterion is that stylistically the fence should have some relation to the structure it surrounds.

A HIGHLY ORNAMENTAL CAST IRON treillage which is appropriate on a French Quarter New Orleans house would be an absolute disaster around a New England Salt Box. The best advice is once again to do some local research and to find out what was currently in use at the time your house was built.

IF YOU LIVE IN AN AREA where there were local iron works, you might be in for some very pleasant surprises. The local factory might have produced various types of cast iron fencing, much of it very elegant, (and sections of which might still be obtainable from such sources as local junkyards and demolition firms), which may be illustrated in the company's sales catalogs. In some instances, you will discover that these firms custom-made a fence specifically for one or two buildings, i.e., a fence in an Egyptian motif to go around an Egyptian revival building.

BUYING OLD OR ANTIQUE iron fencing can be risky. Aesthetically, the fence will have to relate to the character and period of your house. Never buy fencing without keeping the ultimate picture of house, yard, and fence in mind. Examine the fence closely. There may be pieces missing. If it is of cast iron this will mean that you will have to have castings made of the missing elements. This is very costly.

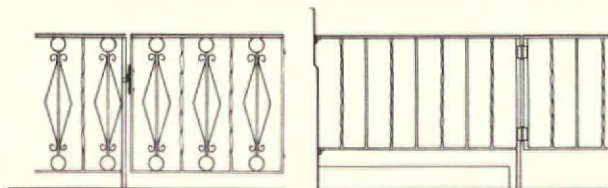


This wrought iron railing rests on a low retaining wall of brick with a stone cap, c. 1905, Norfolk, Virginia.

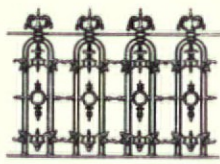
Types Of Iron Fencing



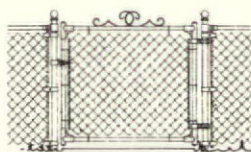
Wrought Iron Typical hairpin fences with interlacing U shapes and arrowheads or spiked spheres are made of wrought iron which has been heated and then beaten into shape, or bent on a slab. Wrought iron, a dense, relatively soft pure iron, resists rust even when unpainted. Today what is called wrought iron is usually mild steel. Wrought iron is harder and lasts longer than mild steel, but is difficult to obtain. Mild steel gives a ringing sound when struck. Wrought iron does not. If it is maintained and painted every 5 years, wrought iron will last at least 100 years.



Mild Steel Mild steel is called wrought iron because it is hand worked. It has a high oxygen and carbon content and rusts very rapidly. Steel fencing should be heavily galvanized. After galvanization, however, the fence will not hold paint. To take paint, the fence must be dipped in hot "red lead" and baked dry. Repainting will be needed every 5 years. With proper maintenance a mild steel fence may last 50 years.



Cast Iron Cast iron fences are usually heavier and more ornate than wrought iron. The mold for casting is made by hand. Cast iron is a brittle metal which does not bend easily. Ornamental cast iron rusts relatively slowly, but should be protected with paint.



Chainlink Chainlink or Cyclone fencing is stylistically the least compatible fencing material. The heavy galvanization looks dull. When painted green and concealed by climbing vines or a hedge, the appearance is improved.

This information on fences was excerpted from *The Cape May Handbook*. This informative book is reviewed in this issue on page 24. --Ed.

REPAIRING WROUGHT IRON requires expensive handwork. Check the overall strength of the fence. Iron does rust! Be sure that you are not buying a shell of rust held together by layers of paint. Installation of old iron fencing may also cause layout problems because the sections may not be readily divisible to fit your lot. Problems of this type are legion, so be cautious. Also, make sure you get enough fencing. You can't just pick up the phone and order another 20 ft. of antique fencing.

INSTALLING AN IRON FENCE is not a do-it-yourself project. First, it should be set on a brick or stone base to give it secure anchorage and a proper visual appearance. An iron fence rising out of grass, even if its parts are firmly anchored in concrete, simply does not look right. Second, an iron fence needs to be properly secured to its base. It should be set in lead or sulphur and both of these substances in their molten state are not to be treated lightly. Needless to say, such fencing will also involve brazing and/or welding.

Good Advice

THE BEST SIMPLE ADVICE one can give anyone contemplating a masonry or iron fence is the following:

- a) Make sure that this is what you really want and that it is appropriate to your building. Because there are tremendous stylistic variations depending on periods and localities, there is no such thing as "a single type of appropriate fence."
- b) If you decide that you have to have such a fence or wall, do some research locally to first discover if your house ever had such a feature. To see what was used locally around similar houses, research your local or state library and historical society, as well as a walking tour of your neighborhood. Lastly, do some reading on the topic.
- c) Get professional help for the design, including help in the field of landscape architecture. Remember that a wall or fence is not an isolated element but is part of a greater image which involves house, plants and the adjacent structures.
- d) Get a professional to build it.
- e) If you have any doubts at all, opt for the simplest design and make sure that in scale and proportion it has some relation to the area enclosed, the function to be served, and the house.

Next Month—Part II will detail designs and construction of wooden fences.

Dr. Frederick Herman, AIA, has served as chairman of the Virginia Historic Landmarks Commission. He is also a partner in the architectural firm of Spigel, Carter, Zinkl, Herman & Chapman—Restoration Architects, 420 West Bute St., Norfolk, VA 23510.

Restoring Damaged Plaster

By David S. Gillespie, Chicago, Ill.

REPAIRING DAMAGED PLASTER is one of the first "cosmetic" tasks that most old-house owners get involved with. Nearly every house has had some settling or other movement that creates long, spidery cracks extending across ceilings and down walls—especially over the doors. Children, reclining rockers and the like will have taken their toll on the walls. Previous owners may have filled in doors and windows leaving visible changes in the wall surface. Or they may have attempted to patch the plaster with a bag of Sakrete and a hand—leaving something that looks like a child's model of the craters of the moon.

MOST HOUSES have experienced some settling—and the cracks caused by this settlement present no special problems. However, other plaster damage is caused by shifting foundations or leaking water. Obviously, these are serious conditions and must be tended to first before attempting to fix the plaster.

ASSUMING YOUR HOUSE is sound and that all the major structural and mechanical work has been done, the first step in a plaster repair program is to get an accurate assessment of the overall condition. This may require that multiple layers of wallpaper be removed from some walls at this point if they are masking the true condition underneath.

Plaster Vs. Drywall

MANY PEOPLE, seeing numerous cracks and holes in their plaster, opt to avoid repair problems by ripping out all the old plaster and installing dry wall (sheetrock) throughout. But no matter how well done, drywall simply does not have the form and texture of a plaster wall. I will go to almost any length to preserve existing plaster.

YOU'LL WANT TO go through your house room by room, examining each wall and ceiling to see which ones can be saved. As a rule of thumb, I try to repair any surface that has 50% or more of its plaster intact.

IF THE SURFACE CANNOT be saved, call in a plasterer for an estimate on replacing with new plaster. The estimate won't cost anything and you may be pleasantly surprised. In many

cases you may be able to replace with genuine plaster at a cost not much higher than a good drywall job.

To Salvage Plaster

TO SALVAGE PLASTER, the first step is to strip off all wallpaper, nails and other odds and ends. To get paper off, I use a garden sprayer and chemical wallpaper remover. Spray the paper in a small (4 ft. x 4 ft.) section, soaking it thoroughly. Let the paper soak for 3-5 min., soak again, and start scraping. (A stiff wallpaper scraper works best.) Old paper generally comes down easily—if it hasn't been painted. If it has, score the paper at frequent intervals, and soak. It will come off—inch by inch! And be careful not to gouge the plaster; you're the one who will have to fix all those nicks later on.

WITH THE WALLS BARE, you have a better idea of the problems. Most houses built before 1914 had hair plaster; i.e., plaster with animal hair mixed in to provide greater strength. The quality of this plaster can vary greatly depending on the care taken by the original plasterer. Usually, old plaster is quite hardy and well worth salvaging.

PLASTER INSTALLED after 1914 may have a fiber bonding agent rather than animal hair...or it may have no bonding agent at all. Some of this old plaster without bonding agents is so weak that it may crumble away as you pull off the wallpaper.

Surface Preparation

PREPARATION OF THE SURFACE is the key to good plaster repair. Failure to prepare adequately will simply mean that the plaster will crack and fall out again soon after you are finished. Here are some common problems that require special surface preparation:

WATER STAINS—Brownish rings on the plaster, especially the ceilings, indicate that the plaster has been wet. Water damage is not serious if the water was stopped quickly. The surface can usually be sealed with pigmented shellac to prevent the stain bleeding through new paint or wallpaper. But if the leak was

allowed to continue over long periods, the plaster may have effloresced...leaving a rough, chalking surface to which patching material will not adhere. The solution is to first wire-brush the surface, then seal it with pigmented shellac. After that treatment, the patching material will hold and it can be patched as described later.

OTHER STAINS—An unusual problem occurred in one house I worked in. Acid had been poured into the wall to dislodge a wasp colony. The wasps left—as did the lime in the plaster, causing the finish coat to disappear entirely over a large area of the ceiling below. To repair the mess, all loose and crumbling plaster had to be removed with a scraper and wire brush. The surface was then sealed with three coats of pigmented shellac to prepare the surface for later patching.

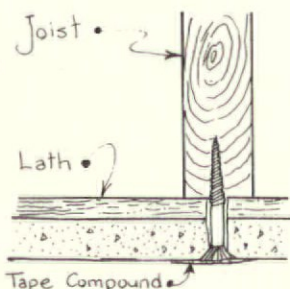
GREASE STAINS may have soaked into the plaster, but they, like most other kinds of stains can be repaired by simply sealing the surface with shellac and painting. Naturally, any globs of grease or other residue must be removed and the surface washed before sealing.

Loose Plaster

LARGE AREAS where the plaster has fallen out entirely, or is very loose, present a problem that often daunts the do-it-yourselfer. If the plaster has not actually fallen off, but is merely loose, then screw it! That is, get some dry wall screws (not nails) or other large, flat-head screws. Carefully drill holes the size of the screw shank through the loose plaster about 6 in. apart and 1½ in. from the edge of the loose section.

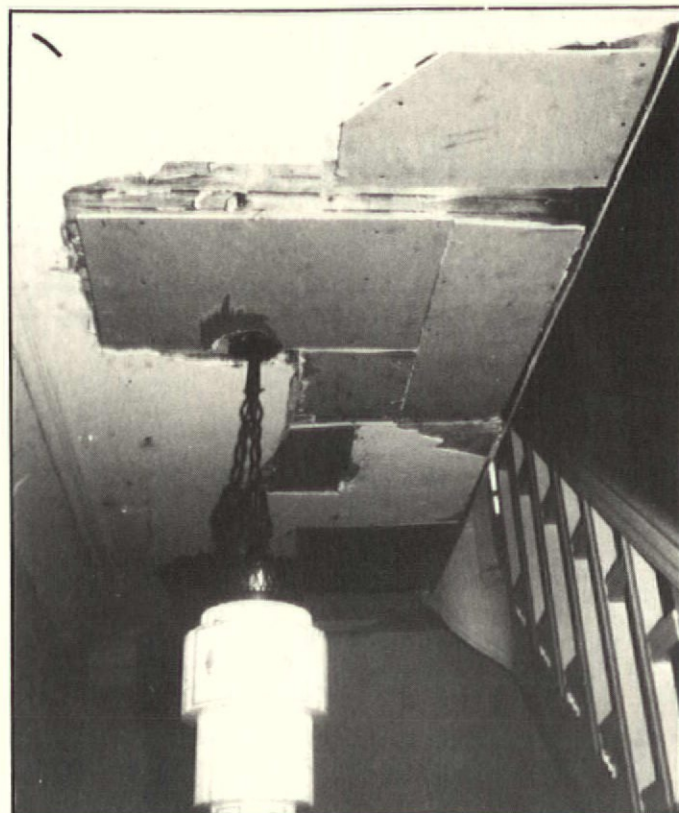
DRILL SMALLER holes in the lath, and then screw the piece of plaster up snug against the lath. Tighten the screws gradually all along the edge to avoid breaking off pieces of the plaster—and make them just tight enough so that the screw head pulls down below the surface.

IT IS ALSO a good idea—whenever possible—to sink longer screws through both plaster and lath up into the joists. This transfers a greater amount of the load directly to the joists...which can be very desirable in situations where drying of the beams has weakened the grip of the lath nails.



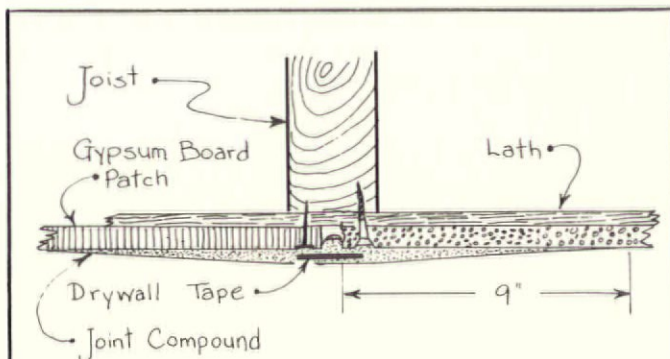
SOMETIMES, loose plaster will give way while you are working on it, and the ceiling will fall. When this occurs, it's time for Plan B.

PLAN B is harder. All loose plaster must be knocked down. It find it easiest to use a hammer and a 5-in. wall scraping knife to pry off all loose sections. The best idea is to locate the wall studs or ceiling joists (the lath nails give you a quick clue) and cut a line down those joists. Make your section as square as possible (to make it easier to cut patches), and as large as necessary.



BEFORE AND AFTER: A loose plaster condition, above, required the removal of all loose segments and the cutting of gypsum board patches. After tape and joint compound are applied (below) patched area is as smooth as new plaster.





RIGHT: Joint compound covering taped crack extends 8-9 in. on both sides of the crack.



WRONG: Compound has not been feathered far enough on each side of crack, creating a hump.

NEXT STEP IS to cut a gypsum board drywall patch that will fit the hole you've just created. If you have some large brown wrapping paper around, it can be handy to make a pattern of the hole you've got to fill. Since most plaster is about 3/8 in. thick, 3/8 in. drywall should do the trick. If your plaster is any thicker, the drywall can be brought up to the level of the adjacent plaster with wooden shims attached to the joists.

CUT THE GYPSUM BOARD to the proper size and nail it in place along the joists, using the proper drywall nails with large flat heads. If at all possible, try to use a single piece of gypsum board drywall to fill in the hole. This will minimize the amount of taping to be done and makes it much less likely that your work will come undone in months to come.

EACH JUNCTION LINE where the drywall adjoins the plaster should be covered with drywall tape and drywall joint compound...as explained in the section below

AN ALTERNATIVE METHOD is to purchase some rough fiber plaster and fill in the holes with this material. Mix it to a fairly thick consistency and work it into the lath so that enough gets behind the strips to form "keys" that will hold the plaster in place when dry. Work this plaster smooth approximately 1/8 in. below the finish surface. Buy plenty of plaster because a 50-lb. bag won't go very far.



AS A FINISH COAT for the patch, you can apply the conventional lime-plaster mixture over

the rough plaster. Or you can use drywall compound as described below. Working with plaster—especially overhead on a ceiling—can be tricky and frustrating for the novice. So unless you are willing to spend some time experimenting and learning, you are probably best off sticking to the drywall board and tape patching system.

Dealing With Cracks

CRACKS ARE PROBABLY the most common plaster problem encountered by old-house owners. While not as awesome as large pieces of fallen plaster, cracks must be handled just as carefully if you want to avoid repeating the process next year. The secret to patching cracks, I find, is treating them as you would joints in a gypsum board wall. That is, the cracks are filled with joint compound, covered with tape, and then the tape is covered with more compound. The tape provides a flexible bridge over the crack that prevents the crack from showing up again in 12 months—as it often does when rigid fillers like spackle are used.

I GENERALLY GO OVER the entire plaster surface with a stiff wall scraper to get off any loose or flaking paint, paper, and any knobs of plaster left by previous patchers. Then, using a beer can opener, scrape out the crack in a "V" so that the new patch will hold securely.

BESIDES THE 5-in. wall scraper already mentioned, you will also need the following: A wide 12-in flexible taping knife, a 6-in. flexible taping knife, a 5-gal. pail of all-purpose drywall joint compound, and a roll of drywall tape. My first ceiling was done entirely with a 5-in. knife (somebody said to get a wide knife and that was 5 times as wide as my putty knife!). I still don't know how the job turned out as well as it did. A wide (12 in.) knife will make your job much, much easier and will give you a much flatter looking surface.

I FIND THAT READY-MIXED joint compound is less trouble. And since you can save the left-over for another day (or week, or month), it probably is cheaper in the long run than the powder that you mix yourself—and then throw out the excess at the end of the day.

ONE GALLON WILL NOT go far unless you have only minor cracks and nail holes to fill—so get plenty. Few things are as frustrating as running out of joint compound on Sunday with the job half through and the stores all closed.

NEXT MONTH: Taping And Sanding

David S. Gillespie and his wife, Ruth, are dedicated old-house owners residing in Chicago, Ill. In previous issues (June and October, 1978) they shared their experiences in setting up a kitchen. David is also Executive Director of the Historic Pullman Foundation in Chicago.

Products For The Old House



Decorative Wooden Scrollwork

VINTAGE WOOD WORKS in Quinlan, Texas, is now producing a line of authentic Victorian gingerbread designs for interior and exterior use.

MOST OF THE DESIGNS are fancy brackets--scrolls, parrot's beak, even a Texas Special featuring the Lone Star. There are also two running trims and a screen door corner.

GINGERBREAD IS CUT from clear pine and sent shop-sanded, ready for finishing with paint, stain or sealer.

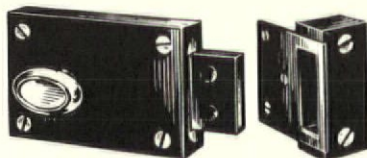
FOR AN ILLUSTRATED four-page brochure, send \$1.00 to: Vintage Wood Works, Dept. OHJ, Rt. 2, Box 68, Quinlan, Tex. 75474. Tel. (214) 356-3667.

Rim Deadbolt Lock

AN INTERESTING COMBINATION of old design and modern technology is the lock made by the Colonial Lock Co. It's an old-fashioned box-type rim lock made to high security standards.

THERE ARE TWO TYPES--the 1776, with knob inside and key outside; and the 1776-1/2, with key inside and outside.

CASE AND KEEPER are cast iron with an antique black finish. The price is \$15.95. For a free flyer with specifications write to: Colonial Lock Co., Dept. OHJ, 172 Main Street, Terryville, Conn. 06786.



Helpful Publications

Handbook For Victorian Houses

THIS HANDBOOK has been compiled for the citizens of Cape May, New Jersey. However, the information that has been gathered will be of great interest to any owner of a Victorian house.

CAPE MAY is the quintessential Victorian sea-side town with over 600 frame buildings from the 19th century, providing an overwhelming variety of house styles and their special restoration problems.

THERE IS A BASIC GUIDE to 19th century architectural styles illustrated with line drawings and photos; A section on maintenance, restoration, doing it yourself and working with contractors.

A USEFUL DISCUSSION of the streetscape--sidewalk paving, fences, gardens, driveways--is featured as well as an extensive review of exterior building features--foundations, siding, windows, shutters and blinds, doors, trim, brackets, dormers, gutters, etc.

OTHER SECTIONS INCLUDE: Tools for preservation (tax incentives, revolving funds); An appendix of Federal legislation; Glossary of Victorian architectural terms; A bibliography of restoration books.

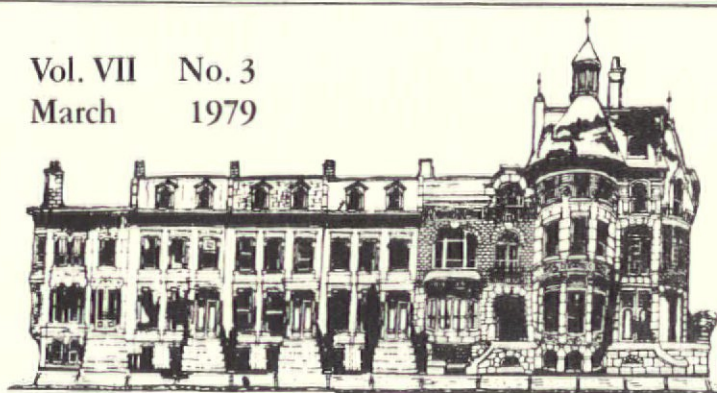
THE CAPE MAY HANDBOOK is an 80-page paperback containing over 100 measured drawings and photos. The cost is \$5.00, plus \$1.00 postage and handling.

TO ORDER, send \$6.00 to: The Athenaeum, 219 S. Sixth Street, Philadelphia, PA 19106.



THE OLD-HOUSE JOURNAL

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Restoration And Maintenance Techniques For The Antique House

Metal Ceilings

By Barbara Schiller

MY HUSBAND AND I BOUGHT our brick and brownstone house in Brooklyn's Park Slope Historic District because although sadly neglected, it had not been ruthlessly remodelled. It was structurally sound and needed only cosmetic work to make it as attractive as it once had been.

WE KNEW SOMETHING HAD TO BE DONE about the dining room ceiling. Crumbling from long-ago water damage, its chipped center medallion hung dangerously by one corner. The master bedroom directly above had also suffered its share of water damage and neglect. Then there was the double parlor--decorative rosebuds were dropping like hailstones from the border trim of the ceilings, and there was a large ominous crack. We put the rosebuds away for safekeeping till the time and money came to restore the ceiling. It was hardly an immediate problem.

OUR ARCHITECT, Hal Einhorn, who specializes in restoration work, suggested we replace the dining room and bedroom ceilings with tin ceilings. We were not very impressed with that alternative until we saw the one he had installed in his beautiful Vic-

torian house. Right then and there we examined the designs available from one of the local companies that still sells and installs these once popular ceilings.

WE PICKED A CEILING AND CORNICE pattern that matched the feeling of the rest of the 1890 detail in our house. It would be installed at the appropriate time in the work schedule. And at a price cheaper than the complete plastering job the ceilings would have otherwise required. Plasterboard had not been considered an appropriate material for these two rooms.

A MARVELOUSLY SKILLED CRAFTSMAN installed the ceilings in the rooms (see p.31 for do-it-yourself instructions) taking about six hours for each. The shiny tin looked odd against the shabby walls.

AFTER THE WALLS in the bedroom were patch plastered, we painted the room. Suddenly everything looked startlingly different. The same transformation occurred in the dining room.



24' Multiple Plate No. 2465
\$8.50 per 100 square feet
Size of sheets 24 x 48 inches

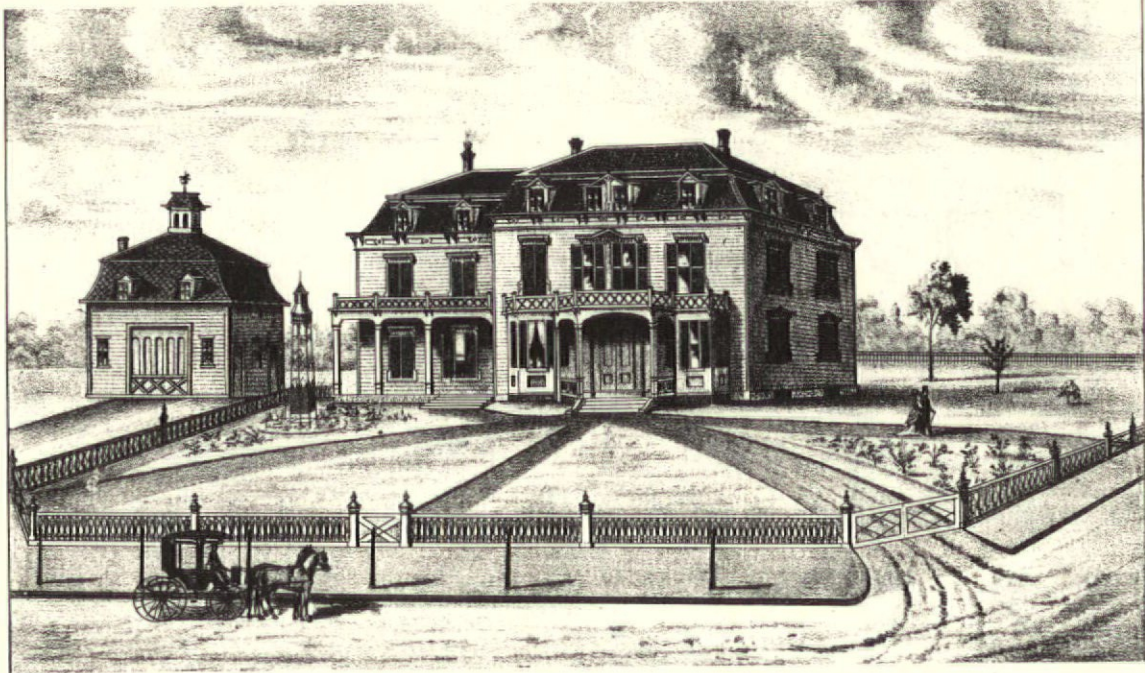
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Coming Next Month

REMOVING PAINTED WALLPAPER

(Cont'd on page 29)



Fences

Part II ~ Wood

By Frederick Herman, AIA

THE MOST FAMOUS WOOD FENCE in history must be the one Mark Twain mentions in Tom Sawyer. For the average homeowner that fence may not offer much in the way of a guideline for fence design but it does point to the ongoing maintenance problems.

I AM GOING TO LIMIT myself in this article to what are regarded as the traditional type of residential wood fences, i.e., various types of picket fencing. This type of fence is usually referred to as a "good garden fence" and is usually associated with the old house—distinct from such types as brush fences, rail fences, and board fences. It also avoids the question of fencing for contemporary houses such as redwood fencing, lattice fencing, basket weave fencing, board-on-board fences and other types whose purpose is perhaps more for creating private outdoor spaces around patios and pools than it is to fulfill the traditional role of a fence—which is to mark boundaries.

WHEN CONTEMPLATING the erection of a picket fence, two major considerations enter into play. The first is a question of aesthetics and appropriateness, the second is "how to" get it up.

Selecting A Fence

AESTHETICALLY SPEAKING, there is no unanimity as to the desirability or appropriateness of fences. There is quite a difference in the

attitudes towards fences in the 18th and 19th centuries.

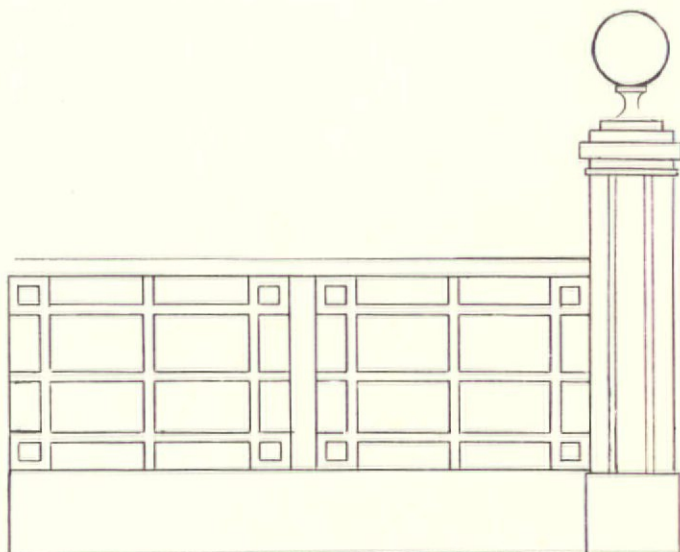
THE HOUSE BUILDER in the Colonial era must have considered the fence as important a part of the entire design as the doorway, window framings, and other important wood architectural details. Asher Benjamin, in his "Practical House Carpenter," published in 1830, (which later became the builder's bible) devoted a whole plate to fences designed in a Classic manner. He advised that if the house

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Fence design from an Asher Benjamin plate

were large and located on an elevated piece of ground, at a considerable distance from the road, the fence should be of the largest dimensions. But if the house were small and the fence would be near to it, then the fence ought to be small and low, so that it would not appear to be a principal in the structure.

19th Century Attitudes

IN THE 19TH CENTURY, as the romantic and picturesque styles of houses came into vogue, (Italianate, Gothic Revival, etc.) the influential architects who espoused these styles were basically anti-fence. The influential A. J. Downing felt in mid-19th century that, "Fences are often among the most unsightly and offensive objects in our country seats."



A handsome picket fence with panelled posts surrounds this Colonial house.

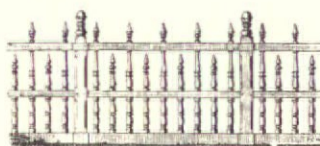
Picket

Fence Pattern

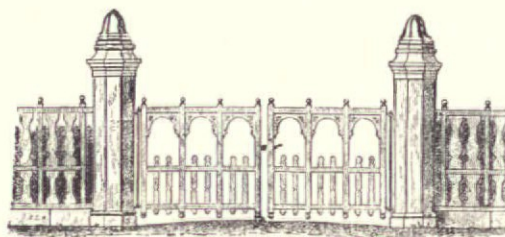
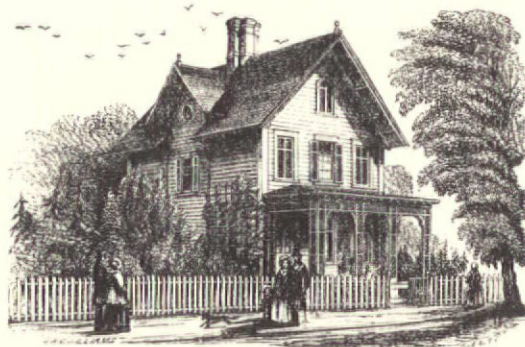


If you wish to build a Williamsburg style picket fence there is a full size pattern available to help you. The pattern gives four additional picket top styles besides the most common pointed style. There are also patterns for the posts, a list of materials and complete directions for installing, priming, painting, etc. To order, send \$2.50, plus 50¢ postage, to: Easi-Bild Pattern Company, Inc., Dept. OHJ, P. O. Box 215, Briarcliff Manor, N. Y. 10510. Ask for No. 315, Williamsburg Fence & Gate.

DOWNING DESIGNED HOUSES in a rural setting and did not like marked off spaces, preferring a natural, free-form look to the landscape. Reality dictated, however, that fences were often needed—especially for houses in suburban and city locations. Calvert Vaux, an architect whose houses were similarly romantic and picturesque, occasionally included a picket fence and did give some fence designs.



Designs from Calvert Vaux's book, "Villas & Cottages" first published in 1864.



BASE CORNER BEADS.



2298
Base Angle Bead, 1 1/2 x 1 1/2, \$5.00 per 100.



2299
Base Angle Bead, 1 1/2 x 1 1/2, \$6.00 per 100.

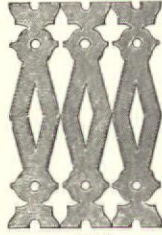
SAWED BALUSTERS.



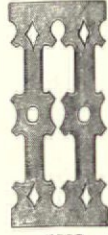
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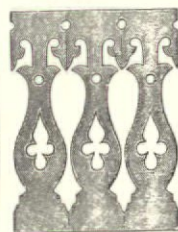
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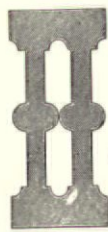
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2312

WRITE FOR PRICES.

As the 19th century wore on, fence designs became more fanciful. Catalogs offered fancy pickets as in the page above from a Rand McNally publication, c. 1890. Pattern books published designs for wooden fences as in the designs shown at right.

IT IS TEMPTING to say that all one would have to do to get a properly designed fence is to determine the age of one's house and then copy a fence from an appropriate pattern book. But the scale of the fence and especially of its posts and gates must be in keeping with your own house and this remains a fine point of judgement.

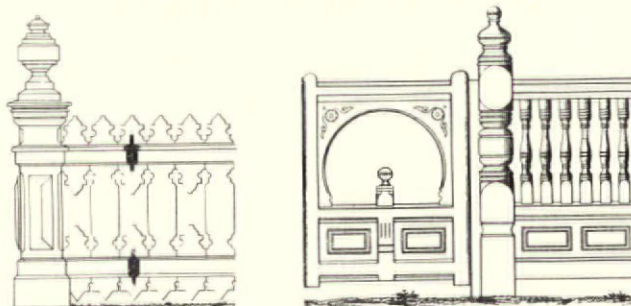
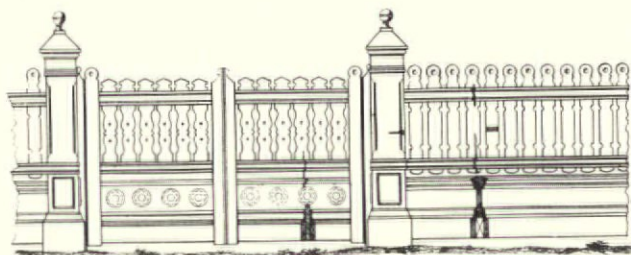
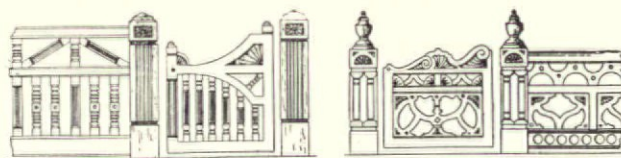
THE BEST BET IS TO START OUT with research to see if you can find any old photos or records showing what kind of fence might have surrounded your property. If this yields a blank then carefully study all available information and select a design that is appropriate. To play it safe remember that it is always better to go with the simple than with ornate. It is less apt to clash with the surroundings and in addition it has the great advantage of costing less.

NEXT MONTH: Building A Picket Fence



This 1890 photo depicts a square-picket fence with a fancy wooden gate.

Designs for Victorian Fences & Gates



(Cont'd. from p. 25)

AS IF TAKING THE HINT, half the ceiling in the front parlor suddenly fell down. Now it was an immediate problem. We set about trying to find a plasterer experienced in restoration work. One had retired, another had moved to Spain, the third had no telephone. The fourth gave us an estimate that was much more than we could afford and did not include restoring more than the minimum of details.

WE CALLED THE TIN CEILING COMPANY again. The ceiling for the 12 x 30 ft. space was done in less than two days and at a cost that averaged out to about per square ft. for materials and labor. Once painted, the ceiling actually looked better than it had originally.

WE HAVE USED THE SAME PATTERN throughout our house. We had a choice of 19 ceiling patterns and 9 cornice patterns. There are filler patterns too. In the heyday of the use of metal ceilings, the company that did our work could have given us a choice of over 400 patterns and service of a staff of 20 draftsmen to custom design the installations.

THEY WERE POPULAR because they were easily ordered through catalogs, easy to install and reasonable in price. These reasons are still valid today. Their intricate designs give an authentic feeling of the old days that cannot be matched at the price by any other material. Now, thanks in good part to renovators of lofts and brownstones, metal ceilings are back in fashion.

TODAY THEY ARE MADE of tin plate and manufactured on the automatic presses of Barney Brainum-Shanker Steel, Inc., of Glendale, New York. This company has been pressing tin ceilings from dies since 1912 when there were 40 such companies.

THE TIN CEILINGS are sold in 2x8 ft. panels. If ordered direct from the manufacturer the price range is in the neighborhood of \$13 for the ceiling sheets if less than 50 are ordered and \$45 to \$150 per 100 lineal ft. for the cornices depending on size, pattern and quantity. A crating charge of \$20 is added on orders under \$250.

WHEN YOUR TIN SHEETS arrive, wash them with a solution of half vinegar, half water or with mineral spirits/paint thinner to remove any traces of oil from the stamping machines.

ONCE INSTALLED, prime with oil-based metal primer. After that the tin ceiling can be painted with any type of paint. If the ceiling is to be left unpainted, use clear lacquer on it.

TIN CEILING SHEETS are increasingly being used for walls in bathrooms and halls. For wall installations, lath rather than furring strips are used unless the window and door frames project enough to use furring strips.

THE OLD-HOUSE JOURNAL CATALOG lists addresses and phone numbers for tin ceiling suppliers.

A Glance Back At Tin Ceiling

AN IMPORTANT FACT to remember when using tin ceiling today is that it was never widely used as the original finish in the formal rooms. More often, it was used as an inexpensive way to conceal damaged plaster.

METAL CEILINGS first came into use as early as 1868 and were actually corrugated iron. By the late 1880's they were in wide use but mostly for hospitals, schools, and commercial buildings. By this time they were small and light metal sheets with stamped decorative designs.

ADVERTISEMENTS PROMOTED the stamped metal sheets as being: Safer--they could act as fire stops in case of fire; Economical--they were less expensive than plaster or wood ceilings.

AT THE HEIGHT of their popularity, c. 1895-1915, several companies specialized in metal ceilings. Most companies could offer a choice of over 400 patterns and the service of a staff of draftsmen to custom design your installation.

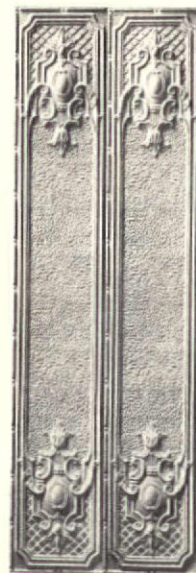
THE MATERIAL was available in a great variety of styles--Classical, Rococo, Gothic, and

later on--Art Deco. Texture was also an important design element as many patterns imitated stucco, brick or tile.

BUT THE BIGGEST difference in what was available then and now is in the form that the metal sheets came in. An entire room could be appropriately covered with metal.

THERE WERE SIDE WALL plates that came in 6 and 8 ft. heights. There were specially designed patterns to be used for dados with accompanying chair rails. Cornice and frieze designs came in a variety of depths.

FOR CEILINGS, besides the sheets formed of small and large tiles, there were medallions in many diameters, moulded borders, square centers, rosettes,



Side Wall Plate No. 850
\$10.00 per 100 square feet
Size of sheets 24 x 72, and 24 x 96 inches



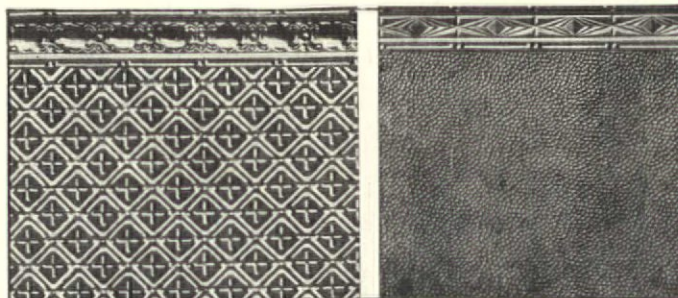
This photo of an office was featured in a turn-of-the-century steel ceiling catalog. Ceiling, cornice, walls, and dado are all covered with various forms of metal sheets.

ELABORATELY DESIGNED beam coverings that imitated an Elizabethan carved and beamed ceiling were offered, known as "False Beams and Wall Beams."

THE MOST COMMON use in homes of the metal sheets was for bathrooms and kitchens. The imitation stucco and tile were popular for dados and wall filler. An odd use of the material was for the underside of porch roofs. Because of the water problem, this apparently did not work well and it is seldom seen today.

THE STAMPED METAL was shipped from the factory with a coat of paint--gray, white or red oxide. Metal ceilings were then painted the same way as plaster ceilings.

A MUCH OVERLOOKED WAY to utilize tin ceiling is for dados in halls, kitchens and bathrooms. There are still patterns available that have the chair rail incorporated into the design. A wooden chair rail could be added to those patterns that do not have one. To simulate the look of Lincrusta-Walton (an imitation leather material that is no longer available) the painted stamped metal can be glazed in a tan-brown shade.



These are two patterns still produced today that quite suitable for use as a dado. They are referred to in the tin ceiling catalogs as "Molded Filler."

THE AVAILABILITY years ago of the various wall panels, fillers, etc., meant that an entire room could be covered in an architecturally appropriate manner with material that was in the right proportion. And proportion today is the problem. Since the stamped metal sheets come in fairly small tile designs, they just cannot be used to cover large expanses of wall and, in some cases, not even large ceilings. You will be introducing a rather strong design element and it must be used with judgement. This is particularly important when a room already has a distinct architectural style to be found in woodwork, plaster frieze, mantels, etc.

HOWEVER, in most cases, tin ceiling can be used as it was years ago--as an economical way to cover a damaged ceiling or to create a dado--and to add some old-fashioned design in the bargain. --C.F.



A typical commercial installation of tin ceiling in the New York office of Thomas Cook and Son travel agency, c. 1906.

Installing A Tin Ceiling

IN THIS CASE HISTORY, the owners had decided to install a tin ceiling over a badly damaged plaster ceiling. It was not a do-it-yourself job, and the owners had found that it was cheaper to have a tin ceiling installed than to have a contractor put in a sheetrock ceiling. And of course, the metal ceiling was cheaper than having the old plaster removed and a new plaster-and-lath ceiling put in. This use of metal ceiling as an inexpensive cover-up for damaged plaster was one major reason why so much of the material was used in the early part of the 20th century.

ALSO, from a preservation standpoint, a tin ceiling installation is reversible. That is, at some future point the tin and furring strips could be removed and the original plaster restored. This assumes, of course, that no decorative mouldings or medallions are removed in the installation process.

THE BASIC INSTALLATION steps are fairly simple: First, install furring strips around the perimeter of the ceiling. Then find the center of the room and put up furring strips every 12 in. on center. You may have to put some shims or old lath under some of the furring strips in order to level the ceiling. Use 3-in. nails to attach the furring strips to the ceiling beams.

TIN CEILING sheets are 2 ft. wide and 8 ft. long. So you'll need additional strips of furring every 8 ft.—and perpendicular to the strips you installed first—in order to have a nailing surface where the ends of the metal

sheets overlap. You'll use 1-in. nails to attach the tin ceiling to the furring strips.

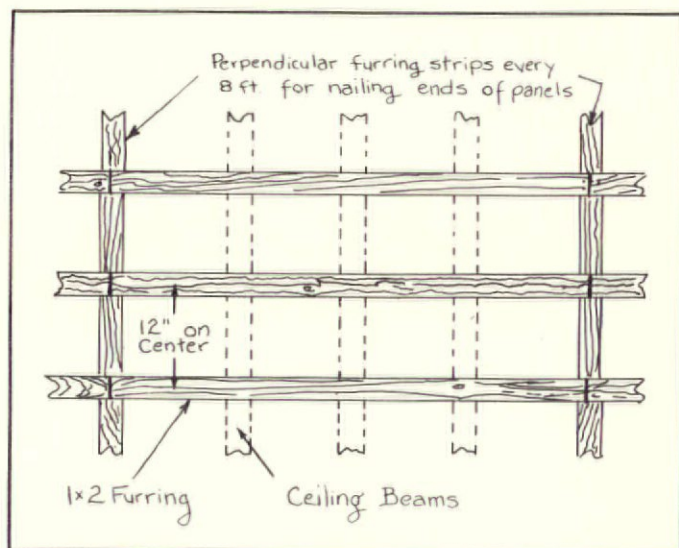
AFTER THE FLAT SHEETS are attached to the ceiling, a moulding strip is nailed to the ceiling and the walls to provide a finish. After it is nailed in position, any seams that don't lie perfectly flat are tapped gently with a hammer. When it is necessary to cut the metal to fit corners and odd shapes, it can be cut easily with tinsnips.

A PROFESSIONAL INSTALLER can put up a tin ceiling so that all the seams lie perfectly flat. If you're doing the job yourself, the odds are that you'll end up with places where there are small gaps where the sheets overlap. Not to worry. These can be filled with acrylic caulk before painting.

WHEN PAINTING the tin ceiling, make sure there aren't any oily patches on the metal left over from the factory. If there are, wash off with mineral spirits. Then use an oil-based metal primer followed by the finish coat.

SOME SAFETY NOTES: The edges of metal ceiling sheets are quite sharp and can slash your hands badly. Wear heavy work gloves! Mike Beck, the professional installer shown in the photos doesn't wear gloves because he has developed a feel for handling the material without cutting himself. But he strongly urges that do-it-yourselfers not imitate his casual manner of handling the material.

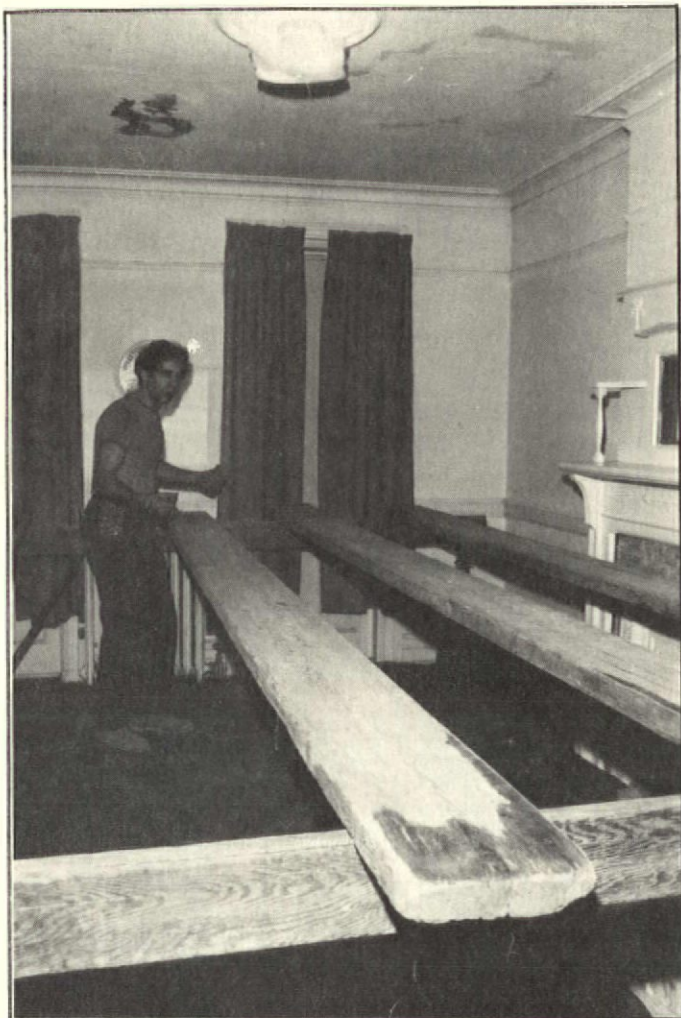
ALSO, A PROFESSIONAL like Mike is able to install a ceiling all by himself. But a novice would certainly want a helper to assist in holding the sheets in position while they are nailed. And scaffolding, such as Mike set up over sawhorses, makes installation a lot easier and safer than would be the case if you and your helper were teetering on stepladders.



SPECIAL THANKS for technical help with this article goes to:

AA-Abbingdon Ceiling Co., 2149 Utica Ave., Brooklyn, N.Y. 11234. This company installs metal ceilings in the New York metropolitan area, and also sells metal ceiling material nationally.

C. A. Ohman, 455 Court St., Brooklyn, N.Y., supplies and installs metal ceilings in the New York metropolitan area.



1. Mike Beck of C. A. Ohman, Inc., provides a steady work surface for himself by making scaffolding out of heavy planks.



3. Additional furring strips are added, so that end result is strips that are 12 in. on centers. Strips are shimmed as needed to level the ceiling.



4. Metal panels are nailed to strips with 1-in. common nails, placing nails in the preformed bead. Mike holds loose end of panel with strip braced by his head.



2. Furring strips are nailed around perimeter of room. Center of room is then located, and lines are snapped for the furring strips on 24-in. centers. These have to be located quite precisely because the metal sheets are rigid and can't be adapted to non-parallel nailing strips.



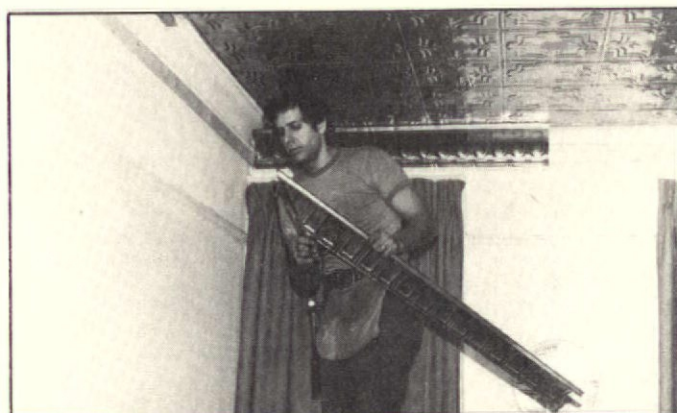
5. To secure ends of the metal panels, additional pieces of furring strip have to be nailed perpendicular to the long furring strips. This provides a secure nailing surface so that ends of the panels will lay flat.



6. When metal panels need to be cut, such as at the edges and corners, job can be done with tinsnips. Beware of edges: They can be razor sharp!



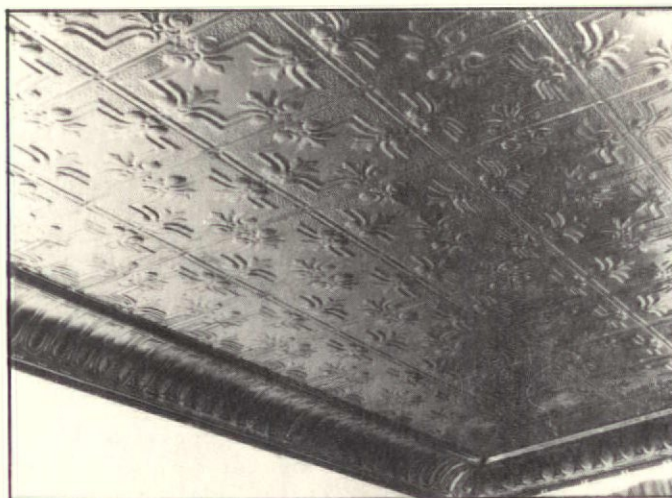
8. Metal cornice overlaps the edge of the last metal ceiling panel. It is nailed to the furring strips top and bottom with nails spaced about every 12 in.



9. To make a neatly mitred corner, second piece of moulding is trimmed with tinsnips. Start cornice installation at corner furthest from door.



7. Next, furring strips are nailed to wall for the cornice. When smaller metal cornices are used, it usually is nailed directly to the wall.



10. Any open seams are flattened by tapping gently with a hammer and a wide chisel or the back of a nail head. Caulk might also be needed for perfect closure.

Taping & Sanding

By David S. Gillespie, Chicago, Ill.

WORKING WITH TAPE COMPOUND to cover the cracks around your patches, you'll find that the larger cracks will require at least three coats. So resign yourself to this three-step process and don't try to shorten the time for the job by putting the compound on too thickly.

USING THE WIDE KNIFE in all but tight spots, fill the largest cracks, plus the seams between plaster and drywall patches, with tape compound. Then cover the cracks with drywall tape worked into the wet compound; make sure some compound oozes through the holes in the tape—that will ensure good adhesion. Be sure also to work out all air bubbles from under the tape. Then cover the tape with an additional layer of compound.

THE FIRST COAT should be applied so that it is all below or even with the level of the finish coat of plaster. Avoid large bumps and bulges in the wet compound, and do not leave any areas where the compound sticks out above the level of the old plaster. Remember: Any ridges or bumps you leave at this stage will have to be sanded later. It is far easier to remove imperfections while the compound is still in the plastic state.

WHEN IT IS THOROUGHLY DRY, the first coat will have shrunk and may have cracked in places. Using a stiff wall scraper, knock off any ridges and cut out with a razor blade any sections of loose tape. Re-cement these loose pieces with more tape compound. Then apply a second coat of tape compound, being careful to get a smooth even surface. If you applied the first coat too heavily...or if there are a large number of irregularities in the surface, you may have to sand between the first and second coats.

A Second Coat

THE SECOND COAT, if applied carefully, will fill all the cracks and major irregularities left in the first coat and begins the levelling process. If you want to avoid many subsequent coats, be extra careful with this step. Using the 12-in. blade, work the compound in a thin layer over the surface. Use long, even strokes; short jerky strokes create too many ridges.

JOINTS SHOULD BE FEATHERED 12 to 18 in. on either side of the joint—or more if necessary. Using light pressure, pull the knife across the crack at a shallow angle to the surface. The blade should be nearly flat so that as much as possible of the flat side skims along the plaster. This is strictly a matter of feel that you'll develop as you go along. The surface should feel flat as you draw the knife

through the wet compound. Don't use too much compound...or neglect to spread the compound a sufficient distance on both sides of the joint. Otherwise, you'll end up with a seam that has a noticeable bulge in the middle.

THE NEXT STEP is the worst. Sanding joint compound is just plain awful work. It gets in your hair, nose, ears and eyes—and forms a paste in your mouth. Be sure to wear a hat, goggles and some sort of mask to keep dust out of your lungs. Hospital masks are available at the corner drug store—and I usually buy several at a time.

Finishing Off

USING MEDIUM SANDPAPER, finish off rough edges and bumps, bringing the surface down as flat as possible. I always carry a pencil at this stage to mark places where another coat will be necessary. This part of the job is entirely tactile; your hands can detect low spots and bumps that aren't visible to the eye.

IT IS ALSO POSSIBLE to avoid much of the mess of sanding dust by "wet sanding." Use a damp sponge to go over the rough spots. Since the tape compound is water soluble, you can get a lot of levelling in this manner.

WHEN THE SANDING has been completed, go back over the surface with a third coat of compound. Hopefully, you'll need very little compound to fill the remaining hollows and the job should not take very long. Once that coat has dried, lightly sand all the newly applied compound. If you've worked carefully, you'll have a good flat surface at this point. Any small irregularities can be filled and sanded again.

ONE FINAL TIP on painting: The tape compound is highly absorbent, so seal it with a prime coat before final painting. And use an off white or cream color on ceilings. Either stark white or dark colors show any remaining blemishes to worst advantage.

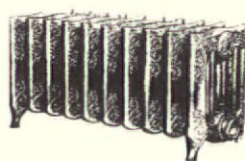
SURE, THIS TYPE of careful preparation is a lot of work. But when you see the smooth result you'll be more than amply rewarded. And by saving as much as possible of your original plaster, you'll have retained a lot of the important visual character of your house.

Patching Problem Cracks

SOME CRACKS return like old friends because they are caused by structural movement and/or expansion-contraction. Several patching systems are on the market to solve this specific problem. They use a glass fiber tape and synthetic resin adhesive. One such system is "Tuff-Patch" made by The Synkoloid Co., 400 Colgate Dr. S.W., Atlanta, Georgia 30336.

Restorer's Notebook

Disconnecting Hot-Water Radiators



THE ARTICLE "Sprucing Up Old Radiators" (OHJ Oct. 1978) contained much useful information. However, since several of the methods depended upon disconnecting the old radiators, I wanted to pass along some cautionary notes about the potential problems when you disconnect an old hot-water heating system.

I AM REHABILITATING an 1874 house with a hot-water heating system that was installed around the turn of the century. During the work, we removed each radiator. And we were sure we had done a good job reinstalling them—until we started the boiler to test the system.

OLD VALVES that were once satisfactory leaked terribly when the system was reconnected. We had to repeatedly disconnect each radiator, sand the coupling faces and use liberal amounts of teflon valve sealing compound before we were able to get a tight seal.

IN ADDITION, some of our radiators, especially in bays, were connected by long runs of exposed pipes that act as additional heating units. In removing the radiators, we unfortunately cracked some of the old pipes and elbows. We thought it would be an easy job to rethread and reattach new pipe, but such was not the case. Many of the old elbows were not standard sizes, but were rather obscure angles necessary to fit the radiators into the bays. Needless to say, these special couplings were no longer available.

AFTER SOME TROUBLE, we were able to fix some of our troubles by threading pipes at an angle so that the pipe and the available elbows more or less matched the angles of the bays. In some cases, however, the radiators no longer fit the bays the way they once did.

ALL OF THE ABOVE COMPLICATIONS made a half-day job into a three-day ordeal with consultations with plumbers, friends and various experts.

OUR FLOOR SANDER, who has a great deal of experience with old-house restoration in the Chicago area, put the subject in perspective for us (after our ordeal was over). He expressed surprise that we had ever disconnected our hot-water radiators. In his experience, reconnecting a steam radiator system presents few problems. However, old hot-water heating systems are a constant source of trouble if they are ever disconnected.

Marshall L. Silver, P.E.
Consulting Engineer
Highland Park, Illinois

Touch-Up Tips

SAVE EMPTY nail polish bottles. Clean them thoroughly, first with nail polish remover, and then with soap and water. Let the bottles and little brushes dry thoroughly.

WHENEVER you paint a room, piece of furniture, etc., save some of the paint by filling one of the clean bottles. (You can use a clean eye-dropper for dripless filling.) Then, whenever you need to touch up minor scratches and nicks, you have the paint right at hand for quick, non-messy cosmetic repairs.

Anne Roquemore
Montgomery, Ala.

FOR TOUCH-UP PAINTING, I always try to save some of the paint I've used. But there are some old original finishes in my house for which, naturally, I have no paint reserve.

SO I HAVE PURCHASED a set of artists acrylic colors—the paint that is sold in tubes at artist supply stores. (I bought an extra-large size of the white pigment, since you use a lot of white to tone down some of the very bright colors.)

WITH THIS SET of pigments, I can quickly mix up a small quantity of patching paint to touch up any surface. One happy discovery I made is that the raw umber pigment—just as it comes from the tube—is perfect for touching up the walnut graining in my house. Another nice feature of the acrylics is that they are water-soluble, so your artist's brush cleans up very quickly with soap and warm water.

Alice Kennedy
San Francisco Calif.

Removing Old Mortar From Bricks

IN THE PROCESS of restoring our 1750's colonial house, we discovered a trick that worked very well for removing old mortar from antique bricks. (Simply trying to bang the mortar off with a hammer is a slow, painful job—as well as harmful to the soft old bricks.)

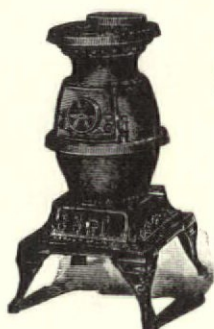
WE BURIED the old bricks in a pile of oak leaves and left them out in the weather for about six months. After that time, the old mortar was softened to a point where it came off very easily. Presumably, it is the acidity in the oak leaves that breaks down the substances in the old mortar. This procedure proved to be both simple and quite safe for the old bricks.

Jane Freeman
Brimfield, Mass.

Got Any Tips?

Do you have any hints or short cuts that might help other old-house owners? We'll pay \$15 for any short how-to items that are used in this "Restorer's Notebook" column. Send your hints to: Notebook Editor, The Old-House Journal, 199 Berkeley Pl., Brooklyn, N.Y. 11217.

Products For The Old House



Stove

Polish

BECAUSE SO MANY people are again using old-fashioned stoves for cooking and heating, many people are again looking for an old fashioned substance known as stove polish.

THE HOPE COMPANY manufactures a product known as Grill and Stove Black. It's heat resistant to 1400°F, and easy to apply--no brushes are required. It will restore luster and blackness to any cast iron surface and is particularly recommended for black cast iron stoves.

PRICE is \$4.95 for a 16 oz. can. To order, or for more information, write: The Hope Co., Inc., Dept. OHJ, Box 28431, St. Louis, MO 63141.

Period House Plans

HOUSE PLANS are available for both Colonial and Victorian styles. Architectural Period Houses is a firm that has of-authentic plans drawn from historic New England houses. They now have a Victorian brochure available with 12 designs.

THESE STYLES include a Bracketed Cottage, Carpenter's Gothic, Stick Style, Queen Anne and Shingle Style.

Two brochures, "New England Historic Houses," and "The Golden Age of Victorian" are available for \$3.00 each.

WRITE TO: Architectural Period Houses, Inc., Dept. OHJ, Mirick Road, Princeton, MA 01541.

Helpful Publications

The Carpenter Gothic Style

CARPENTER GOTHIC" is a new book that takes a delightful photographic survey of the style in the New England area.

FOR THE PURPOSE of this book, "Carpenter Gothic" is defined as any type of carved, wooden ornamentation used on American houses of varied architectural style, mainly before the Civil War. So, while most of the houses are quite gothic in design, there are also some stick and exotic houses included.

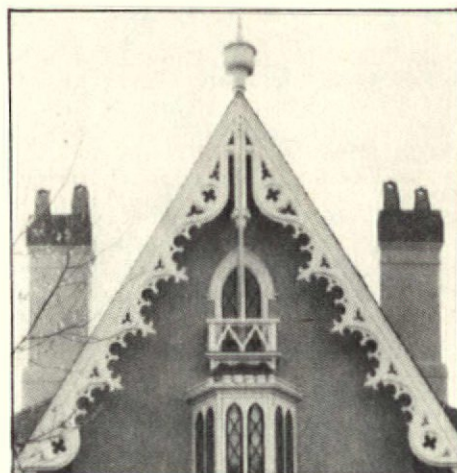
THE PHOTOS (mostly full-page plates) by Frederick L. Hamilton are stunning. And the text by Alma McArdle is informal, warm and informative.

ALMA McARDLE and co-author, Deirdre McArdle, trace the origin of Carpenter Gothic to its roots in the "picturesque revolt" against the rigid demands of the classic form, and discuss the influence of Downing, Pugin, and Davis.

BOOK is 160 pages, 8-1/4 x 11, hardcover, with 150 b/w photos

and line drawings, and an index and a selected bibliography.

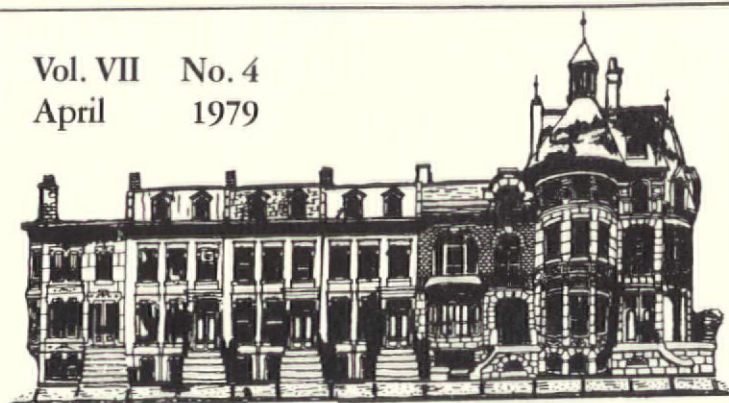
"CARPENTER GOTHIC" is \$24.50. To order, send check to: Watson-Guptill Publications, 2160 Patterson Street, Cincinnati, Ohio 45214.



Alexander Jackson Davis designed this house in New Bedford, Massachusetts.

THE OLD-HOUSE JOURNAL

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Restoration And Maintenance Techniques For The Antique House

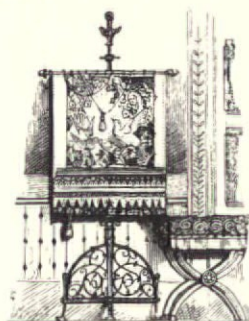
The Interpretive Restoration

By Clem Labine

A subtitle for this article could be: "Don't Feel Imprisoned By Mediocre Taste." Old-house owners who feel a responsibility about the historical character of their homes often worry greatly about whether what they are doing with the house is a true representation of the "original." They feel guilty if what they are doing is not an historically accurate duplication of what the original owners did.

THIS ARTICLE IS DESIGNED to eliminate needless guilt and anxiety. Granted, an old house entails special obligations: Everything you do to the house should be in keeping with the spirit and tradition of that particular style. To thine own house be true. But the search for historical authenticity can be carried to extremes that make the house a burden rather than a joy.

SOME PEOPLE will make changes from the original—and then feel guilty about it. Others will slavishly reproduce some of the original decorative treatments—even though they personally don't like it. The objective of this article is to help you distinguish between important and unimportant changes. Worry about the important ones—and have fun in the areas that allow you some creative freedom.



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Coming Next Month

COOLING THE NATURAL WAY

I AM ASSUMING in this discussion that your old house is like mine; i.e., it is not an historically important home. It wasn't designed by a famous architect; nobody famous ever lived there; nothing important ever happened there; and it is not a particularly exquisite example of any particular architectural style. In other words, it is an "ordinary" old house.

IN SOME WAYS, it is harder to restore the "ordinary" house than the historically important one. With the historical house, your course is clear: You want to make it as close to the historical original as possible. But with the "ordinary" old house there is less precedent to guide you.

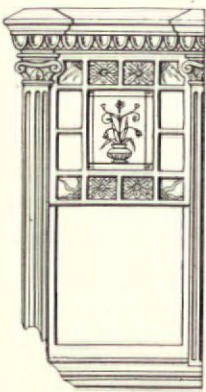
THE FIRST STEP in restoring an "ordinary" old house is to make a distinction between reversible and irreversible changes.

Reversible Work

WE START WITH the premise that an old house is a cultural trust. Any house that has survived for 60 years or more in our throw-away culture has a special claim on our sympathy and attention.

FURTHER, we have no moral right to destroy good craftsmanship of past

(Continued on page 42)



Notes From The Readers...

Old-House Plunder: Thefts Of Art Glass Windows

To The Editor:

UNFORTUNATELY, the success of the old-house movement across the country seems to be having one bad side effect. The growing demand for architectural antiques has created a thriving thieves' market. It is becoming more and more profitable to steal not only the contents of old homes, but parts of the old homes themselves!

ART GLASS WINDOWS seem to be particularly attractive to thieves now—especially those that can be reached from the outside. For example, some neighbors of mine spent nine months working on an 1888 Queen Anne house and were just about to move in...when thieves stole the semi-circular sunburst leaded glass window from the stair landing. The thieves had gotten at it by leaning a short ladder against the outside of the house.

THE POLICE haven't offered much encouragement about recovering the window. They said that this is a growing problem, and that art glass is so popular now that stolen pieces are usually sent out of the city or even out of state for eventual re-sale.

THESE FEW GUIDELINES were offered by the police to lessen the likelihood of your windows getting ripped off. First, make sure you have a photo of each window to aid in identification should the window be stolen. Marks on the glass or on the frame are less effective because the expert thief will quickly detect these marks and obliterate them.

NEXT, if an art glass window can be reached from the outside, make it as difficult as possible for a thief to remove it. A metal grate or bars could be installed. Welding hinge pins and/or nailing the sash to the frames may also work. The windows can also be protected with a securely fastened frame containing a sheet of Lexan. This break-resistant material also has the advantage of protecting the glass from rocks thrown by vandals.

IF YOU ARE REALLY WORRIED about a particularly valuable window that faces the outside, the safest thing to do is to remove it from the frame and mount it somewhere inside the house.

THIS GROWING PRACTICE of plundering old houses puts a special obligation on each of us when we are shopping for architectural antiques. If we buy from dealers who "ask no questions," we are only encouraging this illicit trade and making the thieves bolder

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and bolder. Next time, it could be my house that gets ripped off...or yours!

Emily Williams
Chicago, Ill.

Repairing Cast Iron Waste Pipes

To The Editor:

JACK WOOLAMS' method for repairing cast iron waste pipes (OHJ, Sept. 1978) obviously works well for him. However, experience gained on renovation of six old houses leads me to offer some other suggestions.

(1) Using a sabre saw to cut cast iron piping will take all day—and is unsafe. If the blade catches and breaks, it can fly back at your eyes like a bullet. A hack saw is safer, but will take forever. Solution: Ask your local hardware man if you can borrow his chain type cutter for cast iron. It's then just a 15-min. job—and safe, too.

(2) Even the smallest hardware store can supply you with a Calder coupling. This is basically a rubber sleeve with stainless steel hose clamps to seal the joint watertight. With these, you can remove a defective section of pipe and splice in a new one. Bushings are available to change from cast iron to ABS plastic pipe where codes permit. This is a far more permanent repair than an epoxy patch.

IF ALL ELSE FAILS and you can't get enough working room to install a new section with Calder couplings, then by all means use the epoxy patching system.

ONE LAST HINT: If you have a knowledgeable local hardware man, cultivate him carefully. (Ones that know anything are getting to be a rare breed.) He can be a source of endless information if you ask graciously.

Thelma Smith
Oakland, Calif.

Building A Picket Fence

By Frederick Herman, AIA



PICKET FENCE CONSISTS basically of three elements: (1) posts, (2) rails, and (3) pickets.

FOR A VERY GENERALIZED DISCUSSION of these elements, let us assume the simplest of picket fences similar to the sketch shown. It should be borne in mind, however, that most picket fences are far more ornate, with late Victorian fencing being a riot of fancy curves, cut outs, scrolls and other decorative elements--gingerbread gone wild.

Posts

THESE ARE THE BASIC vertical supports for any type of fence. In a picket fence, two types can be distinguished: (1) Corner and gate posts (2) Intermediate posts. Corner and gate posts are usually larger (6 in. x 6 in. square) and slightly higher than the intermediate (approx. 4 in. x 4 in. square) posts. In height (distance above ground) they usually range from 2 ft. 6 in. for a low picket fence to 4 ft. 6 in. for a tall one, most falling between these dimensions. Depending on the layout of your fence, the posts are usually set 6 to 8 ft. apart with an allowance of 3 ft. for gates.

Treating The Posts

THE POSTS ARE CRITICAL in your fence as they are the elements that give the fence its stability. They are also the element set in the ground and thus most exposed to the attack of insects and the weather.

EVEN THE BEST untreated wood posts containing mainly heartwood have a limited life. Osage orange has a life span of 25 to 30 years, red cedar and locust 15 to 25 years, white oak and cypress 5 to 10 years. Pine, red oak and poplar have only 2 to 7 years, while untreated sapwood will usually rot out in 1 to 3 years.

IT IS ALSO INADVISABLE to set untreated posts in concrete as they may shrink away from the concrete allowing moisture to enter. Your best bet is to buy commercially pressure-treated posts which have a life span of at least 10 and probably 20 to 30 years depending on the preservative used and the method of application. Posts can be treated at home by



soaking them in preservatives (brushing a preservative on does not provide enough absorption) but care should be used as the chemicals can be toxic and harmful to skin, eyes, etc.

THE LENGTH OF THE POST should be about 2 ft. longer than the ultimate height to allow it to extend about 2 feet into the ground.

Rails

THESE ARE THE HORIZONTAL ELEMENTS stretching from post to post and should be a 2x4. Rails should be supported at least every 8 feet by a post. It is a good idea to use treated lumber and to paint the rails where they join after cutting and fitting but before putting them into place.

THE TYPE OF JOINT between rail and post depends on the design of your fence. The simplest is to simply nail them against the post letting rail (lap) run either in front or to the rear of the post. If you run the rail between the posts you can go from simple toe nailing to fancier grooved or even mortised joints. The top rail should be about 8 inches below the top of the post and the bottom about 9 inches above grade in a 3-ft. high fence.

Pickets

PICKETS ARE THE vertical elements between the posts which are fastened to the rails. They can range in dimension from slender 1-1/4 x 1-1/4 members to being 3 in. x 1-1/4 inch boards with all sorts of ends from being cut at a 45° angle to fancy arrow head design (see sketch). The bottom of the picket should clear the ground by about 3 in. The picket should have a clear space between them of approximately 2 to 3 in. depending on the width of the picket. Usually broad pickets will be closer together (2-2-1/2 in.) than narrow pickets which will have a clear space of 3 in. and even 4 in. between them.

Erecting Your Fence

THE CARDINAL RULES before you start are:

- Be sure you are on your property.
- Check the local zoning ordinance and building code as to any restrictions which may exist.
- Check your deed for any deed restrictions.

THE NEXT STEP IS to lay out the location of your corner and gate posts and to then divide the distance between them into equal segments of between 6 and 8 ft. There is nothing more disconcerting than seeing a fence where the distance between posts expands and contracts like an accordion. It is also advisable to have your fence follow straight lines or a definite curve. Avoid weaving back and forth.

THE NEXT TASK is to set your posts. This entails digging holes and the best bet for this is to use either a post-hole digger or an auger (hand or machine turned). As a rough guide, dig a hole about 6 in. bigger in diameter than your post (i.e., a 12 in. wide hole

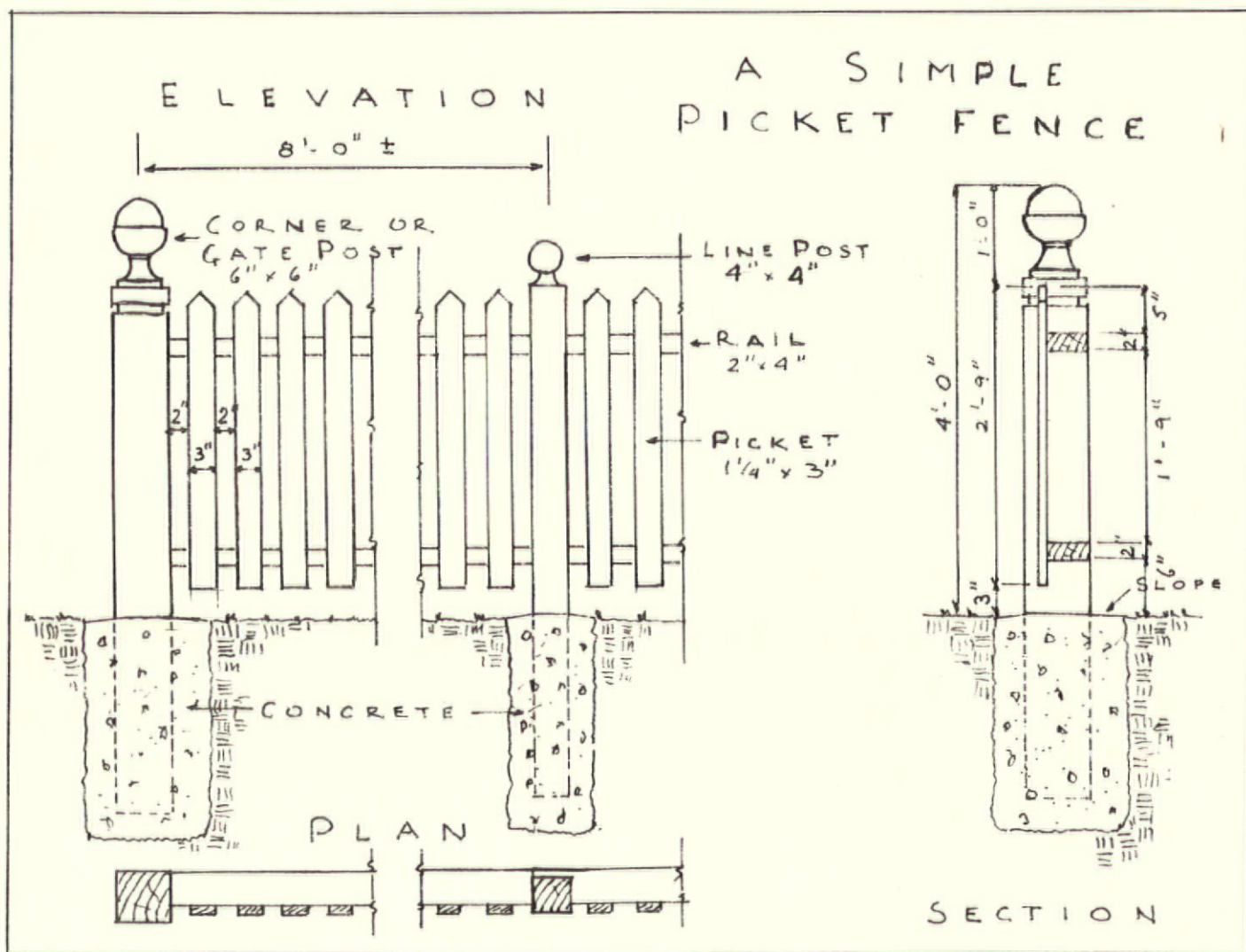
for a 6-in. post) and make it a few inches deeper than the length of the pole to be buried.

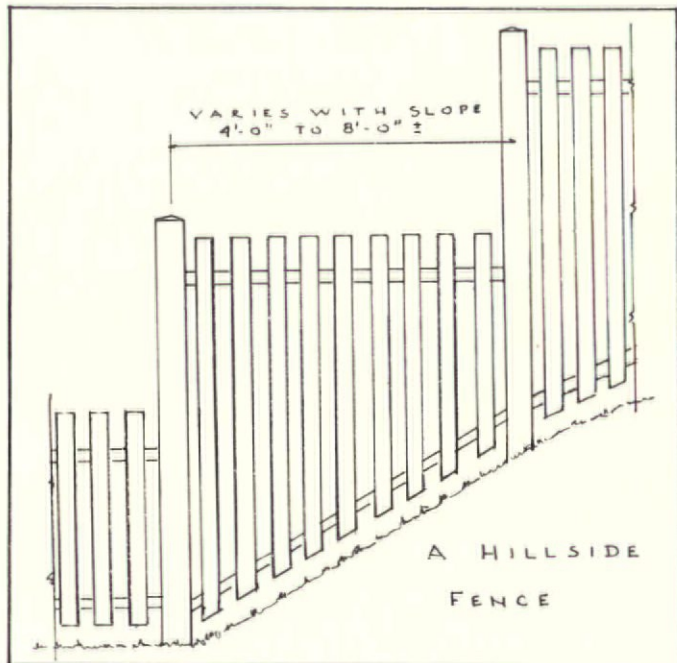
Setting Posts

YOU NOW SET YOUR POST. For a permanent and strong installation, set it in concrete. You can mix your own by buying ready-mix concrete available in approximately 50 lb. bags. Usually, if you are doing this by yourself, you will be setting a post at a time and will only need a little concrete at a time. The ready-mix bag is ideal. Having a concrete truck with 4 cubic yards of concrete standing by is really not practical and very costly. And unless you have a crew to set the poles in pre-dug holes, wasteful.

THERE ARE SEVERAL POINTS to watch in setting posts. First, make sure they are plumb; second, if they are square, make sure that they are not angled or twisted in relation to the other posts. Third, make sure that they extend the proper height above the ground.

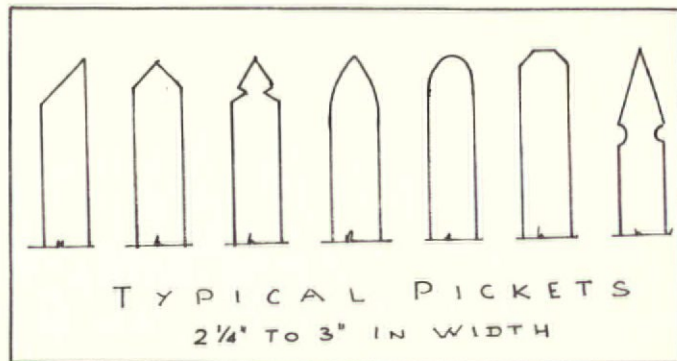
REMEMBER that no terrain is dead level. Your eye cannot see a drop of an inch or two in





8 ft. of lawn, but you sure can see it along the top of a fence. Set your posts so that the tops are level with each other. In cases of uneven terrain, have a definite step down at the appropriate spot (see sketch). Lastly, remember that concrete is plastic and that you will have to provide some arrangement to keep the post in place until the concrete sets. You can use a very dry mix concrete which will minimize the need for such supports. It is also recommended that you slope the concrete slightly away from the post to the ground to avoid creating a trap for water around the post (see sketch).

ONCE YOUR POSTS are set you have about 75 percent of the battle won. It is now a question of cutting and fitting the rails (remember to paint both ends and sides after cutting and fitting and before fastening into place). It is recommended that you use aluminum or at least galvanized nails in all assembly. Ordinary nails will rust and, even when painted over, will eventually create rust stains on your fence.



Paint

THE TRADITIONAL COLOR associated with fences is white. White makes the fence more visible at night, generally makes for a neater appearance and provides a neutral color which goes well with virtually every type of flower and plant material. Colored fences are at times used for special effects in contemporary garden design and for certain attention-getting purposes related to advertising. Some utilitarian fencing such as snow fencing does come pre-painted.

PAINTING IS YOUR BIGGEST maintenance problem with a fence. Paint is also the first line of defense against such things as moisture, fungus and insects which hasten deterioration of wood. Here the best is cheapest. It is advisable to paint your fence, preferably before you assemble it so you can reach all surfaces, especially where they join, with one coat of base paint followed by two coats of outdoor paint. Miscellaneous marks such as hammer dents, nail holes, etc., can be filled in and touched up after the final erection.

THERE ARE A NUMBER OF GOOD outdoor paints and opaque stains available. Oil based paints and top-of-the-line casein paints are among the most popular and long lasting coatings. It is a good idea to check with a reputable local paint dealer to find what is best suited for your particular climate.

ONCE YOUR FENCE IS UP, you have to be aware that it will require ongoing maintenance. The best time for this is every spring after the fence has undergone the hardships of the winter.

Design

THERE IS PROBABLY no such thing as a "typical" picket fence. What is usually associated with that term are the picket fences of the small New England towns.

IN VERY GENERAL TERMS, Colonial picket fences were of a light and open design. In the early 19th century the pickets became heavier and by the late Victorian era they reached the appearance of broad, fancily cut-out boards.

AS DISCUSSED in the first two articles on fences, the design you come up with will depend on your own resources and the results of your research. Your fence can be either the simple picket described here or one which is far more fanciful--depending on what the style of your house calls for and your willingness to put the effort into this most important aspect of your house.

Dr. Frederick Herman, AIA, has served as chairman of the Virginia Historic Landmarks Commission. He is also a partner in the architectural firm of Spigel, Carter, Zinkl, Herman & Chapman--Restoration Architects, 420 West Bute St., Norfolk, VA 23510.

generations. Creations of the past belong as much to the dead and to the generations yet to come as they do to us. We can tear down and meddle all we want with our own constructions. But good work on which previous generations have lavished their time and treasure we have no right to destroy. We have a responsibility to future generations to pass along today's old houses intact.

IN DEFINING "intact," however, we must make a distinction between the decorative appearance of a house and the fabric of a house. We should always be very hesitant to destroy or change the original fabric of a house. But there are many ways that we can alter the appearance of the house--in ways that suit our own tastes--that still remain faithful to the spirit and character of the structure.

THIS DISTINCTION is based on what may be REVERSIBLE at a later date. Should someone come along after you (or if you should change your mind at a later date) and wish to restore the exact original appearance of the house, the work you have done should be easily undone; i.e., be easily reversible.

A SIMPLE EXAMPLE of reversible work is paint and wallpaper. Changing a paint color is easily reversible by merely adding another color on top. And wallpaper can be easily stripped off when a different wall treatment is desired.

THE ONLY TIME a painting operation becomes partially irreversible is when all paint layers are stripped off, thereby eliminating the historic record of the changes in finishes that were laid down since the house was built. When it is necessary to strip paint in a museum house, they avoid this obliteration problem by always leaving small sections unstripped in unobtrusive places. Thus a complete record is intact, should it ever be necessary to trace the entire paint history.

EVEN SOMETHING AS DRASTIC as adding aluminum siding over old clapboards can be considered reversible (even though we don't recommend it). The original material of the house still exists under the new siding. The thousands of people around the country who are ripping off 1940's asbestos and asphalt siding from old houses testify to the reversibility.

HOWEVER, if the contractor (as they often do) removes some of the wooden trim from the exterior then the job becomes less reversible. The only way to re-create the original appearance of the exterior would be to find a pattern and duplicate the original trim--often an impossible task. Once the ornamental woodwork is gone, it's doubtful that the house will ever again regain that architectural feature.

LIKEWISE, putting in a sheetrock partition is usually reversible--if it is carefully done so that not much of the original fabric is destroyed. But tearing down an ornamental plaster ceiling to replace it with sheetrock is irreversible.



A dining room wall that exemplifies the finest decoration in the American style

at the end of the 18th century with fine woodwork details by Samuel McIntyre.

The Interpretive Restoration

THE DISTINCTION between reversible and irreversible work makes it easier to see where we can express our individual tastes in restoring our particular old house. Many aspects of the decoration--both interior and exterior--involve reversible work. And it is in this area that we can express our own taste without the slightest twinge of guilt. As long as you aren't damaging the fabric of the house, indulge yourself.

A CONCEPT that you may find useful is the "interpretive restoration." An interpretive restoration is one that is in the style of the period, without necessarily being a faithful duplication of what may have been in the house originally.

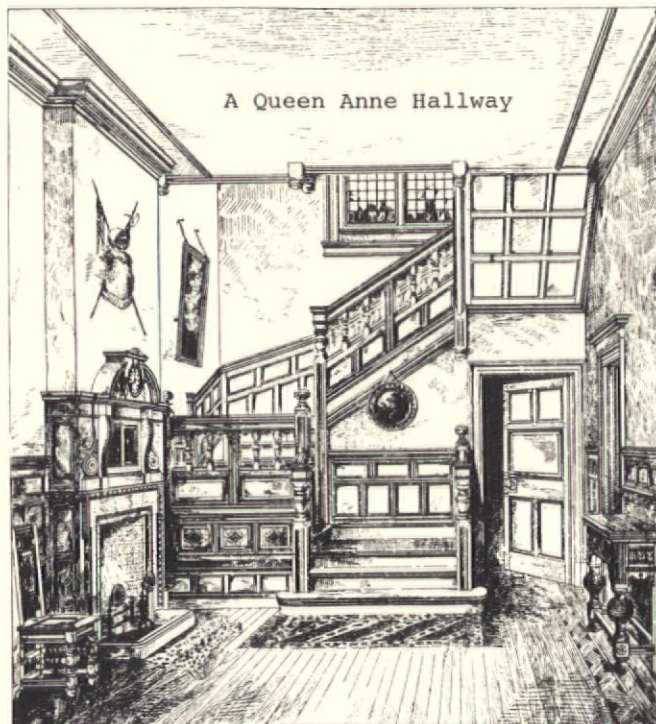
EVEN IN HOUSE MUSEUMS where the original structure is intact, a curator may have to resort to an interpretative restoration for one or more of the rooms. If there isn't enough documentation of the original decoration and furnishings, then the curator has to start making educated guesses based on whatever fragmentary evidence is available combined with knowledge of the styles of the period.

OBVIOUSLY, if your house had some exquisite decorative feature, such as painted stencil-work or scenic wall or ceiling paintings, it is very desirable to preserve or restore these details to the fullest possible extent. But many old houses never had such fine finishes inside. And that's where the interpretive restoration comes in.

For Your House

HERE ARE SOME OF THE CASES in which an interpretive approach may be most practical:

- ▶ You have no idea what the original interior looked like, but you would like to decorate in the style of the period. The house itself provides little physical evidence, and there are no photos or written evidence that you can locate.
- ▶ You have some idea of what the interior looked like (from physical or photographic evidence) but you find that your personal taste is at considerable variance from what a faithful historical restoration would dictate. In effect, you would be spending a lot of time and money to re-create an interior that you didn't like.
- ▶ You have some evidence of what the interior should look like, but you simply don't have the budget to re-create all that would be required. This is not uncommon when people buy large, run-down 19th century houses that had been mansions when originally built. In this case, you might choose to do a low-budget interpretive restoration...keeping your options open in case you come into more money at a later date.



THE BASIC APPROACH to the interpretive restoration is to steep yourself in the social and decorative arts history of the period that relates to your house. Visit house museums of a similar period. Read every book you can get your hands on. Talk to people at your local historical society. And, of course, keep reading *The Old-House Journal*. Read...research...and read some more.

Keep A Focus

THE TIME FRAME you select for your interpretive restoration might have a latitude of 10-20 years. The most important factor is not which time frame you pick, but rather that you stay faithful to the spirit of whichever time frame you select. This gives the end result a unity and clarity of concept that makes it look "designed" rather than just thrown together. Old is not enough; the idea is to put the house together with a coherent theme.

ALSO, BY SELECTING a time frame that is within 10 to 20 years of the house's construction, you'll have decorative details that accent and harmonize with the architectural elements of the house, rather than clashing with them.

SELECTING A TIME FRAME of 10-20 years gives you plenty of latitude to find decorative schemes that please you. Within every period there were movements and counter-movements...the elaborate and the simple...so that you can find models to suit your taste. For instance, Art Nouveau is a style that reached its zenith in 1890-1905, but could fit right in with a Queen Anne/Eastlake house built in 1880 because the Art Nouveau designs were just an extension of the Aesthetic Movement designs that were used initially in Queen Anne homes.

FOCUSING ON A SINGLE ERA actually makes decorating less confusing, because it automatically enables you to eliminate many choices from consideration. If you have a Colonial Revival house with Georgian details, you know that you want Williamsburg-type English reproductions and antiques. So if you see a Tiffany-style lamp shade for sale, no matter how lovely, you can pass it by without a qualm because you know it isn't relevant for what you are doing.

IF THERE IS A SUBSTANTIAL budget for the project, it could be worthwhile to engage a restoration architect or interior designer who has knowledge of the period of interest to you. A competent professional will have more knowledge than you can ever hope to acquire in spare-time study. Even if you use a professional, however, you still want to learn as much as you can yourself before ever talking to the pro.

THE MORE YOU AS CLIENT KNOW, the better able you are to talk intelligently with the professional and get the most out of him or her. Besides, the process of self-education in the design idiom of past periods is one of the most enjoyable parts of restoring your old house.

Interpretive Trade-Offs

BUDGETS OR PRACTICAL considerations often dictate that not every detail from a particular decorative style can be duplicated. For example, many moderately furnished parlors had elaborate draperies that gave a rich feel to the room. Because of the cost of these heavy fabrics today--and the extraordinary upkeep required--a homeowner may wish to keep the window treatments simple or non-existent. But elaboration that is lost at the windows can be added elsewhere. For example, a rich wallpaper pattern or stenciled treatment of the ceiling can be used, which would keep the luxurious feeling.

OFTEN BUILDERS would erect houses with woodwork and plasterwork in the most "modern" designs because the latest pattern books had made their way into the hands of the architect or contractor. However, especially in the Western parts of the U.S., the interior decorating ideas lagged behind the construction styles. Thus in 1885 you might see a homeowner decorating an Eastlake-style house with mid-Victorian cabbage roses. Today, the owner of that house could choose to make interpretive stylistic corrections and decorate with William Morris papers.

EARLY AMERICAN WALLPAPERS, readily available today, are another interesting example of interpretive restoration. These papers are sold as "documentary" papers, but often the original document is not a wallpaper. Rather the patterns are frequently taken from fabrics, book endpapers, china, etc. But this is no reason for the owner of an 1830 Greek Revival house not to use an appropriate paper--even though the house in 1830 probably only had painted walls. Before 1840, the only wallpapers available in the U.S. were expensive materials imported from England, France and elsewhere. Therefore, all but the most luxuri-



Mid-19th century drawing room in the Gothic style.

ous houses went without paper. However, one of the "interpretive" papers can be an appropriate, practical and inexpensive way to capture the flavor of the era.

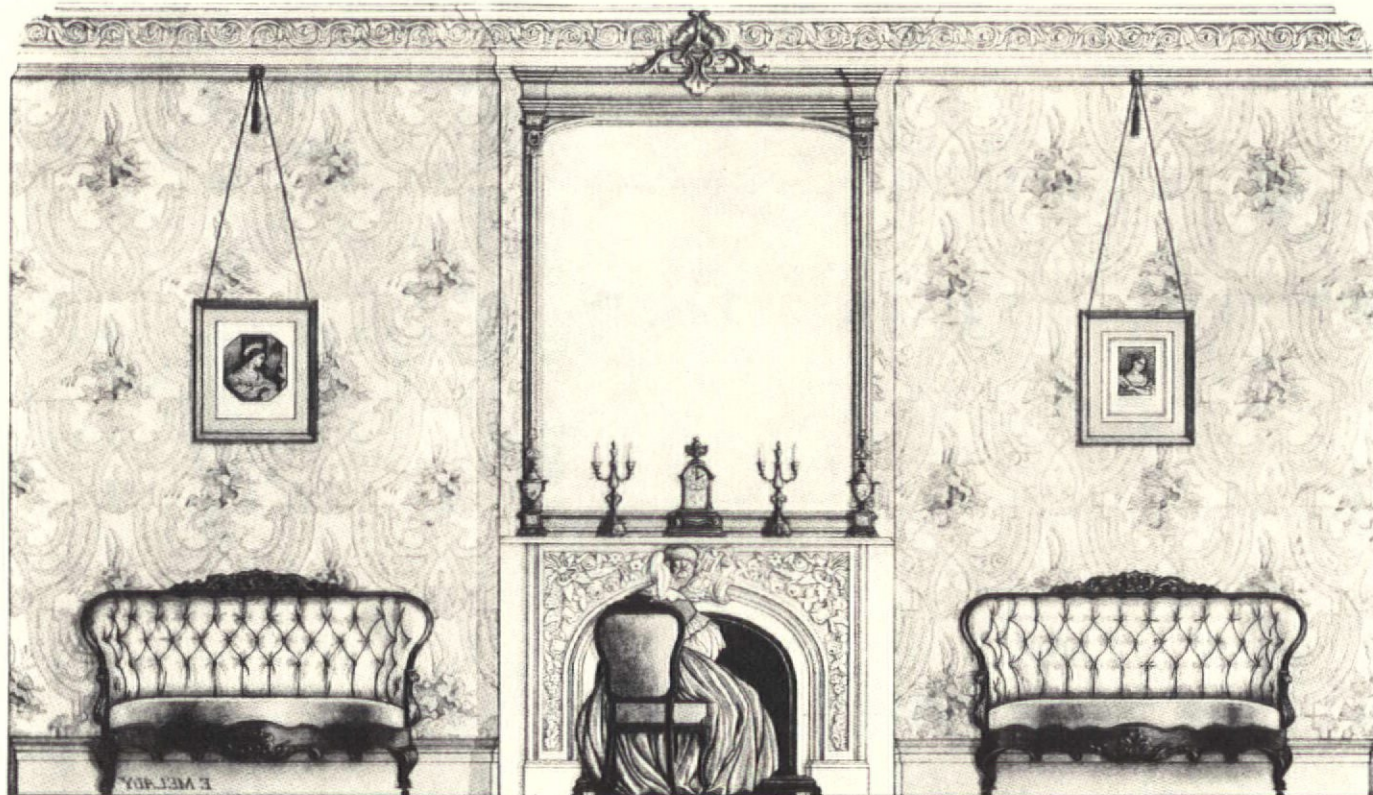
ANOTHER CONSIDERATION: Many late 19th century homes (except those of the very wealthy) were not decorated with the latest fashions...simply because the owners did not have access to the fancy stores of New York and Philadelphia. Rather, these homes were often furnished out of the catalogs of the day. But there's no reason why today's owner of a Colorado Queen Anne house can't play "what if..." and proceed as though the original owners had access to the best stores and taste of the era.

SOME CRITICS of interpretive restorations say that it is "gilding the lily" to put in period effects that were not present in the original. And of course it can be overdone. One would not want to install an elegant Georgian interior in a simple Colonial farmhouse, nor a Rococo Renaissance Revival interior in a 19th century workman's cottage. But that's where the "What if..." part of the exercise comes in. If the best design minds of the period had been used on your house, they wouldn't have overdone it either. They might have developed a richer-looking interior than your house originally had...but it would have been very much in keeping with the style and proportions of the house.

Guidelines

IN PUTTING TOGETHER your interpretive restoration, here are a few guidelines to keep in mind:

1. Your work should not involve permanent changes in any of the original architectural features of the house.
2. The interpretive work should involve primarily the decorative features, i.e.; color schemes, wall treatments, ceiling treatments, furniture and accessories, and the like.

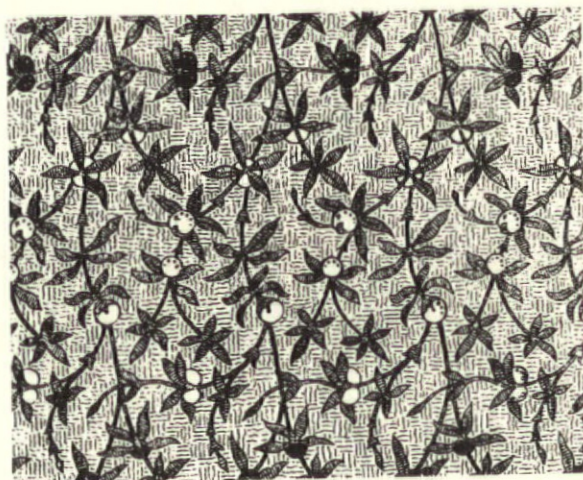


A mid-Victorian parlor in New York City, circa 1858.

3. You should focus on one decorative period--usually the period right around the time the house was built. This will give your design a coherent vision that sets it apart from the countless "eclectic" renovations.
 4. Your work should be in harmony with the original design idea of the house. A Colonial saltbox would have a rustic Early American interior; A Greek Revival would have a classically oriented interior; A Queen Anne an Aesthetic Movement interior A classic American Farmhouse would be based on the "Catalog Style;" A turn-of-the-century Colonial Revival would be designed around the Classical Revival, and so on.
 5. Frequently--especially in more modest homes--the exterior details give the best clues to the original design idea.
 6. Play "What if..." Pretend that the original owners had access to the best design minds of the period. What might the house have looked like? For most old houses, it isn't crucial to re-create what the house actually looked like. It's good enough to know what it could have looked like.
 7. Go slow. You are bound to change your mind as you develop more information. Work done in haste at the beginning is usually regretted later on.
 8. Plan your interpretive restoration as an organic whole. Don't plunge into hands-on work until you have worked out all your ideas for the entire house on paper. Sure, you'll change your mind as you go along. But it is of immeasurable value to have a detailed blueprint so that you know exactly what you are changing from to.
 9. Develop a system so that you can plan your interpretive restoration in an orderly way. Most people find a 3-ring binder most convenient, with sections set aside for each room, for the exterior, and for general restoration considerations. Other people find file folders most convenient.
- Whatever system you choose, this organized approach forces you to think out each area of the house and get your ideas down on paper. As you read books, visit house museums, etc., you can enter all the good ideas into your planning book.
10. Most important, have fun. It is the reversible decorative area where you can exercise your creative faculties. Working in the design idiom of a past historical style offers infinite possibilities--and is a stimulating intellectual exercise. When you change from a mere observer of old architecture into a designer of period spaces, you suddenly look at your surroundings with a heightened awareness. It is an exciting and enriching undertaking.

COMING NEXT MONTH: A case history of an interpretive restoration.

Removing Wallpaper — Painted And Otherwise



AT ONE POINT, it was not considered necessary to remove old wallpaper before painting or putting down new wallpaper. But experience has shown that the paste on new wallpaper often softens the old paste, so that buckling and bulges can result. Even if paint is being applied, it is best to remove the old wallcovering to prevent future peeling—and the difficulties in removal that painted wallpaper can present at a future time.

IF THERE ARE ONLY one or two layers of wallpaper, removal should be relatively simple. First, test a small section to make sure it isn't the modern strippable type of paper that you can just pull off the wall. If so, your problems are over.

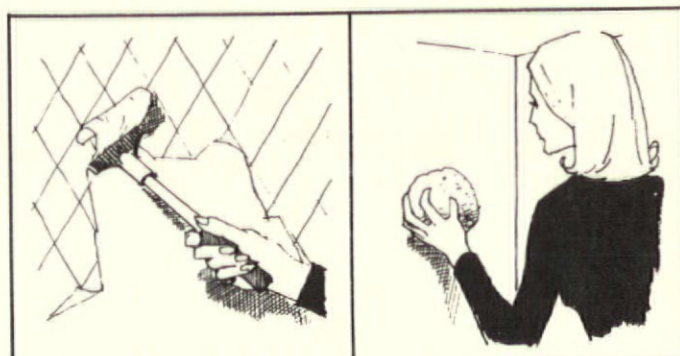
IF THE WALLPAPER was applied with conventional wallpaper paste, then water alone should do the trick. Some folks like to add vinegar to the removal water, claiming that it speeds the action somewhat.

YOU CAN APPLY the water to the wallpaper with a calcimine brush or other large paint brush. But the most efficient way to soak the paper is with a fine mist from an ordinary household garden sprayer. Although the garden sprayer may sound like over-kill, it doesn't get much more excess water on the surface than you would by sloshing with a brush. Be sure, of course, to spread newspaper on the floor to absorb any water that runs down the walls.

THE SECRET is in letting the water soak through thoroughly before trying to scrape the paper off. Wet down the entire room, then go back to the beginning. If the paper hasn't loosened sufficiently, wet it all down again. Then scrape off with a wallpaper scraper.

Painted Wallpaper

IF THE PAPER HAS BEEN PAINTED, there's more of a problem. The water can't get behind the paint film to dissolve the old wallpaper paste. The traditional solution has been to scratch the surface thoroughly with very coarse sandpaper or a nutmeg grater. Or else to make a large number of cross-hatch cuts with a knife or razor blade. This allows some water to seep behind the paper and to gradually loosen the paper. But it is a slow, tedious process.



Wallpaper scraper (left) can be used to strip wallpaper—wet or dry. After stripping, wash wall with sponge and warm water to remove old paste and bits of paper clinging to the surface.

A FASTER METHOD, preferred by decorating contractors today, is to remove the painted layer (and as much of the paper underneath as possible) with a wallpaper scraper. The wallpaper scraper is a long-handled stiff-bladed tool that is relatively new on the market. For example, Hyde Tools sells one they call a "Wallpaper Shaver" (Hyde Tool #33100).

IF THERE ARE SEVERAL layers of paper, it's possible that you won't be able to get all the layers off with the scraper. That's not a problem—as long as the layer with the paint comes off. Any remaining paper can be removed with soaking.

AFTER SCRAPING as much wallpaper off as possible, it's necessary to sponge the wall with water to remove paste and bits of old paper. For this job, see if you can locate a couple of natural sponges. They are far superior to the synthetic cellulose or urethane types for cleaning and rinsing.

SPECIAL THANKS for technical advice to Howard Zucker—a professional decorator and member for 32 years of the Brotherhood of Painters and Decorators.

Restorer's Notebook



Beware: False Marble

THE NOTES ON CLEANING MARBLE (OHJ, Jan. 1979) should have added to it a strong caution. Before using this method, or any other method involving abrasive cleaners or solvents, make sure that what you are dealing with is, in fact, marble. Many of the beautiful veined "marbles" used in 19th century mantels were in fact made by applying paint to soapstone. Abrading or applying solvents to these finishes can be disastrous.

IF A MANTEL is natural marble, all faces of all pieces will show color and veining. If it is a painted finish, however, the painting was usually not carried beyond where it would be visible. So investigation should disclose some of the soapstone's characteristic dark gray color. First try looking under the overhang of the mantel shelf. If that area seems to match the rest of the mantel, then either move a loose piece if there is one (don't risk your mantel by trying to make one!) or scrape away at a small inconspicuous area to see whether the color is integral or just a surface layer.

THEORETICALLY, a drop of vinegar or dilute muriatic acid should react with real marble and generate small gas bubbles. But since the most inconspicuous places tend not to be places where liquids will stay put, this test does not seem as useful as the scratch test.

Allen Charles Hill, AIA
Winchester, Mass.

Handy Nail Starter

WHEN IT IS DIFFICULT to get small brads or nails started in a piece of wood, here's a hint that will save many banged fingers: Place the tip of the nail in a small ball of putty (window glazing compound). The putty will hold the nail in place while the nail gets started, and the putty is easily removed once the nail is being securely held by the wood.

Mrs. Orlin Petersen
Utica, S.D.

Bluing Nails

WHEN FACE NAILING wood such as flooring, paneling and wainscoting that is to be stained and finished naturally, I found that bluing the nail heads makes the nails look old and less conspicuous. A small bottle of gun bluing will do a lot of nails and is available at most sporting goods stores for about \$2.00.

Michael Overdorf
Elma, N.Y.

Homemade Drill Bits

PRE-DRILLED STARTER HOLES are often necessary when driving nails into old, hard wood. If you find that you don't own a drill bit of the proper size, don't panic. There's an easy homemade solution.

SELECT A NAIL that is the exact same size as the nail you will be using in the wood. With tinsnips, bolt cutter or hacksaw, remove the head from the nail. If the nail you are using is a finishing nail, the head is small enough so that you shouldn't have to remove it.

THE BLUNT END of the nail can then be inserted into a drill, either electric or hand operated. The nail then becomes a makeshift drill bit that will make very satisfactory pilot holes.

THIS METHOD works best with small nails used in fragile wood, such as mouldings and casings.

Jane Freeman
Brimfield, Mass.

Tape For Severe Cracks

SOME CRACKS in plaster are caused by continuing movement of the house, due to expansion/contraction and other structural motion. These kinds of cracks usually reappear after a short time if they are simply filled with spackle or patching plaster.

THERE IS A TYPE of nylon mesh tape used by sheetrock installers over joints when they are putting electric heating cable in a ceiling. This fabric tape is available in rolls like the paper tape.

WHEN EMBEDDED in joint compound over the crack, the nylon tape produces a very strong patch that will resist further cracking. In our area, the nylon tape available is "Imperial Tape—Type P" manufactured by U. S. Gypsum. Their main office is at 101 S. Wacker Dr., Chicago, Ill. 60606.

Wayne Kizer
Idaho Falls, Id.

Got Any Tips?

Do you have any hints or short cuts that might help other old-house owners? We'll pay \$15 for any short how-to items that are used in this "Restorer's Notebook" column. Send your hints to: Notebook Editor, The Old-House Journal, 69A Seventh Avenue, Brooklyn, N.Y. 11217.

Products For The Old House

Helpful Publications

A Mechanical Doorbell

ONE OLD-HOUSE ITEM that many of our readers have asked us about is a mechanical doorbell assembly. A very handsome one is now being reproduced by Victorian Reproduction Enterprises, Inc.

THE UNIT IS CAST of solid brass and has fine detailing. It will fit doors ranging from 1-1/4 in. to 2 in. thick. The dimensions are: Bell back frame 3-1/2 in. dia., projection out 2-1/2 in. Front plate 4-3/4 in. high x 2-5/8 in. wide.

THESE ARE the spring-loaded type that gong once every time the front lever is pulled.

THE BELLS are \$49.95 each (complete with brass mounting screws) and \$1.50 for postage and handling.

TO ORDER, send check to: Victorian Reproduction Enterprises, Inc., Dept. OHJ, 1601 Park Avenue South, Minneapolis, Minnesota 55404. Telephone: (612) 338-3636.

Hardware Encyclopedia

UNFORTUNATELY, the time is past when you could walk into your local hardware store and ask for "a thing-a-mijig that makes the whatzis go round" and come up with what you need. Unless you know exactly what to ask for, you are likely to come away empty-handed.

THE ENCYCLOPEDIA of Hardware presents a guide to the thousands of household hardware items that are produced today. Fully illustrated with line drawings, this large-size, hardcover, 217-page book explains the function of each item and its advantages and disadvantages in relation to similar items.

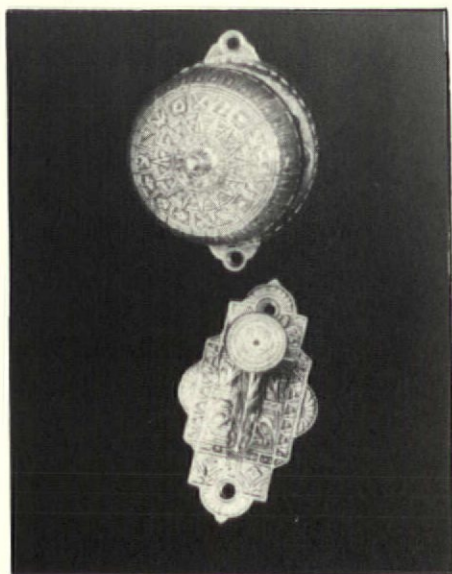
PRICE is \$12.00, plus 75¢ postage, and can be ordered from: Hawthorn Books, Orders Dept. (OHJ), 260 Madison Ave., N. Y., New York 10016.

A Preservation Primer

THE PRESERVATION LEAGUE of New York State has assembled 15 articles from its newspaper series, "Preservation for the Property Owner."

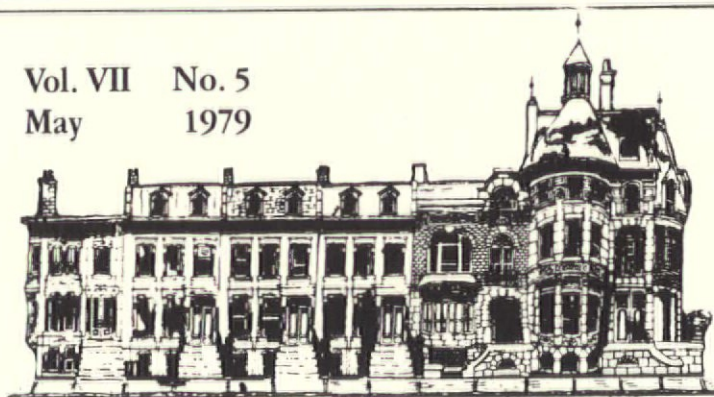
EACH ARTICLE in this 35-page, illustrated booklet focuses on a particular task or special problem commonly encountered in rehabilitating old buildings. Topics include: "Discovering the History of an Old Building", "Financing a Preservation Project", "Energy Conservation" and "Paint Restoration and Preservation."

A PRIMER: Preservation for the Property Owner can be ordered from: The Preservation League of New York State, Dept. OHJ, 13 Northern Boulevard, Albany, N. Y. 12210. The booklet is \$2.00 postpaid, and special rates are available for large quantity orders.



THE OLD-HOUSE JOURNAL

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Restoration And Maintenance Techniques For The Antique House

Cooling The Natural Way

By Ron Pilling, Baltimore, MD

HERE ARE TWO WAYS to cool your old house during the most sweltering months of the year: 1) Expensively, and 2) Inexpensively. The former method is a battle against nature; is inefficient when combined with antique architecture, and normally requires costly and ghastly interior modifications to install in a mature house. The latter works in harmony with nature, is economical to install and operate, needs only limited interior change, and was developed when your ancient abode was new. Number one is air conditioning; Number two, natural or fan-forced ventilation.

PROPER VENTILATION TECHNIQUES do not introduce mechanical refrigeration equipment to lower air temperature. They rely on moving already-cool air through your home and exhausting it after it has absorbed the heat that makes you uncomfortable. That's great, you say, but where does one find already-cool air in the middle of August? It's almost always there somewhere.

AT NIGHT THE AIR is at least fifteen to twenty degrees cooler than during the day in most parts of the United States and Canada. In early morning

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Coming Next Month

NINETEENTH CENTURY WALLPAPERS

the coolest air is to the west of your house, and in the evening it is to the east. If you have a basement, you'll agree that the air is always cool there.

SINCE YOUR HOUSE was built decades ago when air conditioning was unheard of, you have other cool air sources. Frame houses of the Victorian era often feature deep eaves and gables that provide cooling shade. Air pulled in shaded windows will add to your comfort even when the sun is beating on your roof. Large old trees also help to cool the air around your house.

THERE'S A GREAT DEAL you can do to lower surrounding air temperature without compressing and refrigerating it. But first let's study some basic facts about air dynamics. Air currents are in motion even when there is no wind. This is, of course, because hot air rises. Therefore, if you have an opening low on the cool side of your house and another high on the warm side (see figure 1) you will create a natural current--cool in, warm out. These natural air currents are called "stack," or "convection" cooling.

(Continued on page 57)



A Case History...

The Interpretive Restoration

Part II

By Clem Labine

LAST MONTH I set out some of the basic principles for an interpretive restoration...one that is faithful to the original period and style of the house, without necessarily being an exact duplication of what was originally in the structure. Now let me illustrate how I applied these principles in the restoration of the dining room in my 1883 brownstone.

THE HOUSE, located in the Park Slope section of Brooklyn, had been a rooming house when my wife and I purchased it. The house had been cut up into numerous apartments, with sheet-rock partitions dividing up the original grand spaces, and sinks and stoves seemingly in every corner. Very little evidence of the original appearance remained, except for the walnut woodwork—most of which was still intact under countless layers of paint.

THROUGH DOCUMENTARY RESEARCH, we learned that the house had been built in 1883 by a speculative builder, and had been rented out for two years before a purchaser finally came along. (See OHJ, Oct. 1976 for procedures in researching an old house.) Given the speculative nature of the house's start in life, it seemed unlikely to us that the house ever had a very elaborate interior decorating scheme.

WE ALSO LEARNED that the man who purchased the house in 1885 had worked in a brokerage firm on Wall Street. From the little fragments we found, Mr. Blackwell seemed to be a solid citizen—but not a man of unusual wealth. Therefore, it seemed unlikely to us that the new owners would have dramatically upgraded the decoration in their new home.

Evidence From The House

PAIN'T SCRAPINGS and other archeological evidence tended to support this hypothesis. The original finishes that we could find seemed rather mediocre...not at all indicative of the best taste of the 1880's.

WE UNCOVERED, for example, fragments of three wallpapers that, if not original, were from an early decorating scheme. One of them was a very attractive Art Nouveau pattern. But

the others were quite pedestrian. We wouldn't have wanted to reproduce them—even if the budget would have allowed it.

WHEN WE STEAMED the calcimine paint off the dining room ceiling (see OHJ May 1976 for the process), we found what seemed to be the original paint finish: A brownish purple that could best be described as the color of liver. It was definitely a color that could be called "interesting," but was not one that my wife and I felt we could live with.

DURING THE WORK on the ceiling, we also uncovered evidence of a turn-of-century re-modelling that involved (among other things) removal of an ornate plaster medallion and its replacement by a much smaller, simpler circular medallion. This presented an immediate question: Should we attempt to recreate a medallion like the original, or work with what we had?

IT WAS AS WE PONDERED all these factors that we opted for an Interpretive Restoration.

'What If...'

FOR OUR INTERPRETIVE restoration, we started by going back to the original design idea of the house...to see what the structure itself would suggest. The dominant decorative feature...inside or outside the house...is the walnut woodwork with the large carved crowns. Research into the style books of the day showed that these linear, geometric ornaments were basically inspired by Charles Locke Eastlake and the English Aesthetic or Art Movement (see OHJ, April 1975). This discovery gave us the starting point we needed.

WE THEN POSED the "what if" question: What if one of the leading aesthetic designers of the time had been retained to decorate the house? What might the house have looked like? For

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DURING (right): A rooming-house bathroom had been built into the dining room alcove. Photo shows midway point in the restoration. Partitions and bathroom fixtures have been removed, the floor replaced, and the cut for the bathroom door is ready to be re-sealed. Behind bathroom partition was found a turn-of-century wall treatment in very damaged condition.

AFTER (below): Dining room restored in the Aesthetic fashion of the 1880's.

Photos by Jim Kalett



our "leading designer," we chose Christopher Dresser—an English design genius of the late 19th century. We selected Dresser because of the power and originality of his designs—and because he had published a great deal. So there was a large body of printed work available for review.

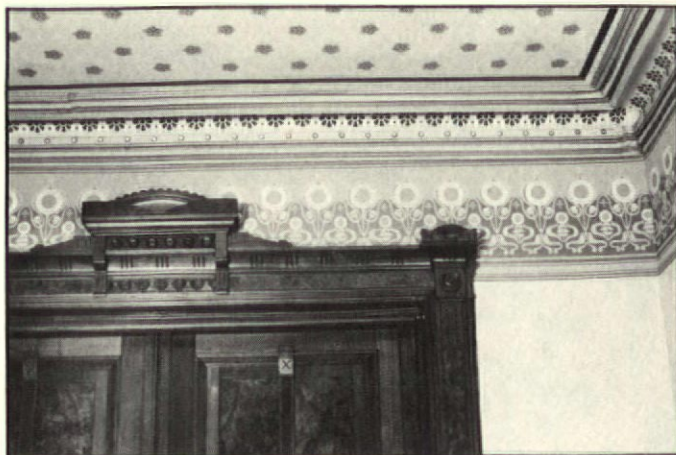
FORTUNATELY, several of Dresser's works are available in inexpensive reprint editions. And through a friend who is a book collector, I also had access to one of Dresser's original volumes. The color plates were immensely helpful in color selection.

NEXT, we made the decision to emphasize painted decoration. Part of the reason was that Dresser had a preference for flat, stylized decoration, such as stencilled ornament. Equally important, very little is available today in Aesthetic Movement papers and fabrics. But you can still buy paint and reproduce any painted decoration that you see in a book or in a museum.

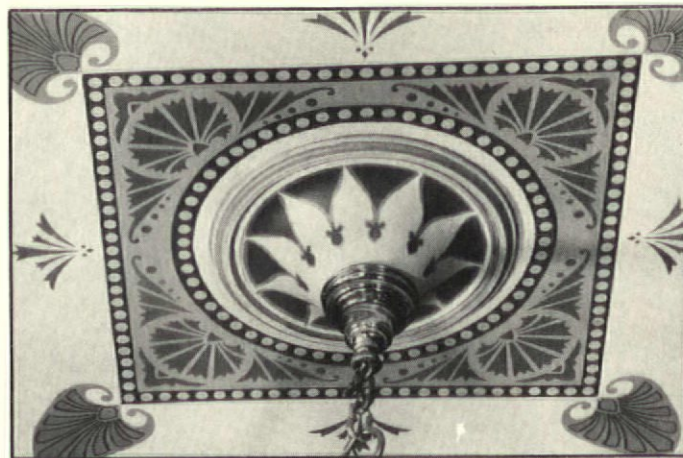
THE DECISION to use painted decoration also solved the problem about what to do about the small replacement ceiling medallion. Dresser didn't like the large cast ceiling medallions; he preferred a flat painted ceiling ornament. So we decided to keep the existing small plaster circle and add a painted ornament around it.

NEXT STEP WAS to select the patterns to reproduce. The pattern for the ceiling and center orna-





Large crowns on woodwork established the stylistic theme for the rest of the decoration: Sunflowers in the Aesthetic manner. Ceiling and cove are stencilled. The frieze paper was silk screened by a friend, Charles Eanet.



Painted ornament—based on Christopher Dresser designs—was added around the small plaster medallion that had been installed in a 1900 remodelling. Dresser preferred flat painted ornament rather than three-dimensional plaster.

ments came from Dresser's "Modern Ornamentation." Similarly, dado and frieze paper were adapted from other Aesthetic Movement sources.

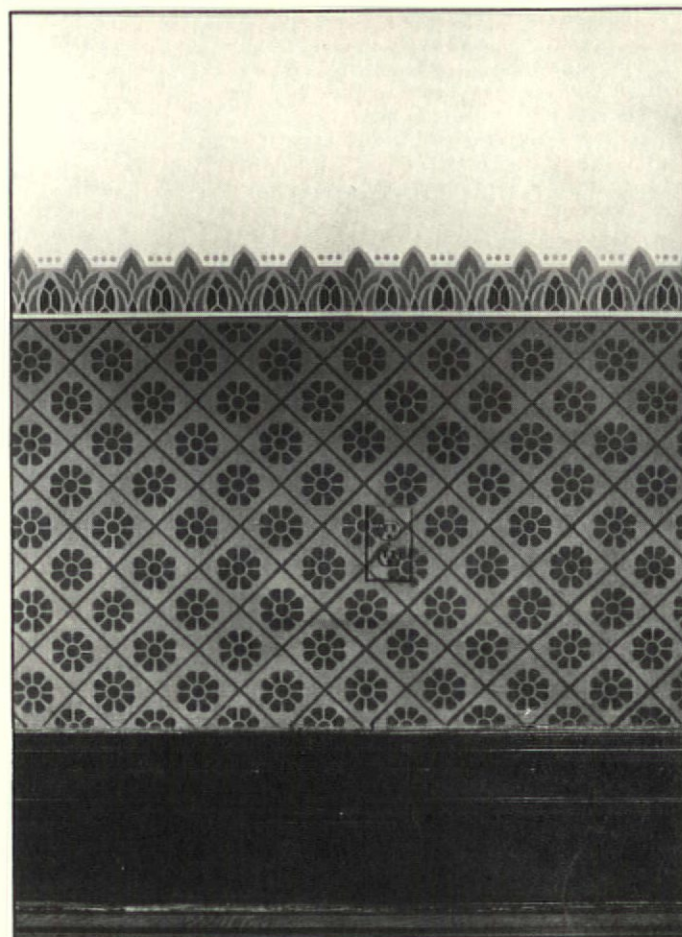
Canvas First

OF COURSE, before any of the decorative work could be done, there was an enormous amount of repair work to be executed—on woodwork, ceiling, walls and floor. But since this was relatively straightforward (albeit endless) work, I'm not going into details here. The "During" photo on the preceding page hints at the amount of work done.

ONE UNUSUAL FACET of the preparation work was the application of canvas to the ceiling and walls before any paint was laid down. Since so much time and effort was being put into the painted decoration, it seemed worth this extra step to ensure that the painted ornament wouldn't be damaged by minor plaster cracks. The "canvas" is actually a white vinylized fabric—applied just like wallpaper—and is available through large wallpaper and decorating outlets.

AFTER THE PREPARATION work was completed and the patterns selected, it was just a matter of layout and execution. Most of the decoration was stencilled—using the techniques described in *The Journal*, Nov. 1976 pp. 10-11. There were about 200 man-hours that went into the decoration. Howard Zucker and Helmuth Buecherl made invaluable contributions in the layout and application of the painted ornament.

THE RESULTING ROOM in the Aesthetic manner is not an attempt to duplicate what was originally in the house. But it is very much in keeping with the spirit of the times when the house was built. And, most important to me, the room is fun to be in. I understand all of the social history behind the decoration—and was part of the process that created it.



The dado was created by stencilling the stylized sunflowers over a glazed background; lines were produced with a stripping brush and straightedge after stencils dried. Dust band above dado is a three-color stencil.

A Glossary Of Old-House Parts

Exterior Features Of Pre-1920 Houses

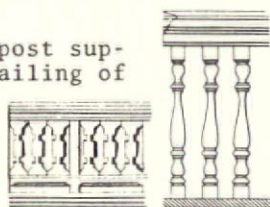
Acanthus A common plant of the Mediterranean, whose leaves, stylized, form the characteristic decoration of capitals of Corinthian and Composite orders. In scroll form it appears on friezes, panels, etc.



Anthemion A common Greek ornament based upon the honeysuckle or palmette. Used singly or as a running ornament in friezes, cornices, iron work, etc. The anthemion is a very adaptable decoration; the one at right is a stencilled version.



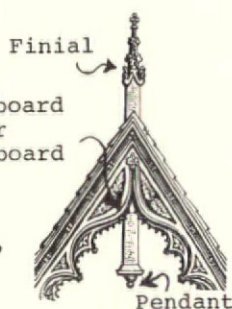
Baluster A spindle or post supporting the railing of a balustrade. Balusters can be turned or sawn.



Balustrade An entire railing system with top rail and balusters.

Bargeboard The decorative board attached to the projecting portion of a gable roof; the same as a vergeboard. During the late part of the 19th century, bargeboards were frequently extremely ornate.

Bargeboard
or
Vergeboard



Bay An element that protrudes from the facade, usually defined by windows. A bay window rises from the ground one or more storeys.



Board and Batten Vertical siding composed of wide boards that do not overlap, and narrow strips, or battens, nailed over the spaces between the boards.

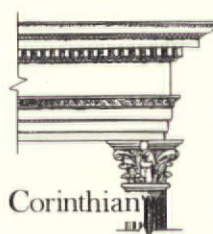


Bracket A projection from the face of the building to support a cornice or ornamental feature. Sawn wood brackets were an important decorative feature in many Victorian house styles.

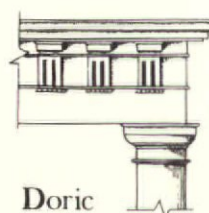


Columns Part of the Classical Order in the architecture of ancient Greece and Rome. Comprised of the base, column, capital and entablature. The proportion for each and every element was spelled out based on the diameter of the column.

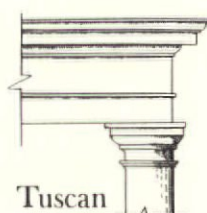
Composite



Corinthian

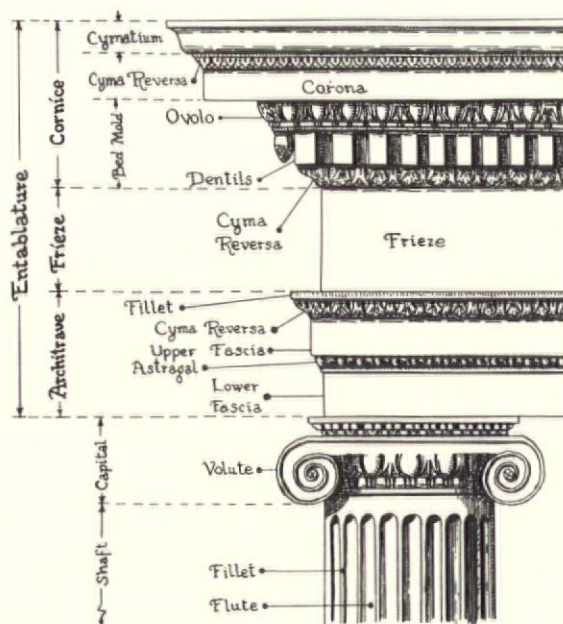


Doric



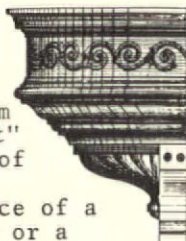
Tuscan

An Ionic Entablature





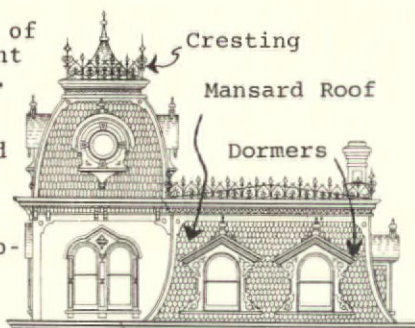
Corbel A bracket or block projection from the face of a wall that generally supports a cornice, beam or arch. "Corbelling out" refers to the building of one or more courses of masonry out from the face of a wall to support timbers or a chimney.



Cornice In classical architecture the upper, projecting section of an entablature; also the projecting ornamental moulding along the top of a building or wall.



Cresting A line of ornament finishing a roof. Victorian houses (especially the Second Empire and Eastlake styles) often feature a small cast iron railing with decorative points on roofs and balconies.

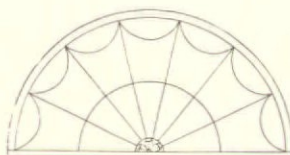


Cupola A small dome or similar structure on a roof. In the 19th century Italian villa style house, a square-shaped, windowed cupola was used from which to enjoy the view and was called a belvedere. Also called a lantern.

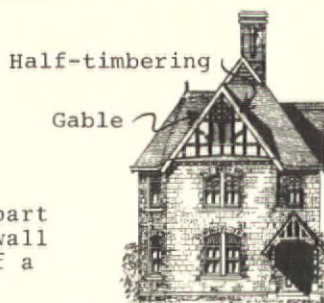


Dormer A vertically set window on a sloping roof; also, the roofed structure housing such a window. (See "Cresting" for illustration.)

Eaves The projecting overhang at the lower edge of a roof.



Fanlight Semi-circular window over a door or window with radiating bars or tracery in the form of an open fan.



Gable The triangular part of an exterior wall created by the angle of a pitched roof.

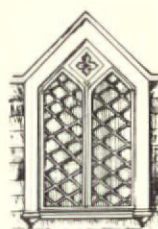
Gazebo An outdoor pavilion or summer house popular for lawns and gardens of rural houses in the Victorian era.



Half-timbered Descriptive of 16th and 17th century houses built with timber framing with the spaces filled in with plaster or masonry. This style of building was imitated in the 19th and early 20th centuries with the Tudor Revival. (See "Gable" for illustration.)

Keystone

The central stone of an arch.

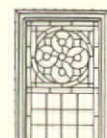


Lancet Window A narrow window with a sharp, pointed arch; it was a feature of the Gothic Revival house.

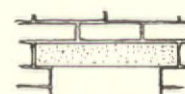
Lattice Open work produced by interlacing of laths or other thin strips used as screening, especially in the base of the porch.



Leaded Glass Window A window composed of pieces of glass that are held in place with lead strips; the glass can be clear, colored or stained. Leaded glass windows are often called "stained glass windows."



Lintel The piece of timber or stone that covers an opening and supports the weight above it.

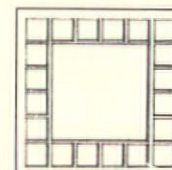


Mansard The classic mansard roof has steep sides broken by dormer windows. Named after the French architect, Francois Mansart, the mansard roof was a prominent feature of the Second Empire Style in the mid-19th century. (See "Cresting" for illustration.)

Modillion An ornamental horizontal block or bracket placed under the overhang of the cornice.

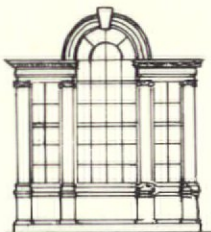
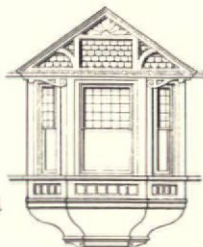


Mullions The strips inside the sash that divide a multi-paned window. Also called "muntins."



Oriel Window

A bay window that projects from the wall of an upper storey and is carried on brackets, corbels, or a cantilever. The oriel window is often confused with the bay window. The difference is that a bay starts at the ground while the oriel begins above the first storey.



Palladian Window

A window composed of a main window having an arched head and on each side a long, narrow window with a square head. Also called a Venetian window.

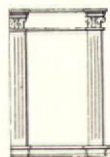


Pediment

A wide, low-pitched gable surmounting the facade of a building in a classical style; also any similar triangular crowning element used over doors, windows and niches, usually triangular but may be curved.

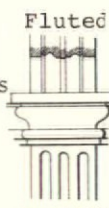
Pendant

A hanging ornament, on roofs and ceilings, used extensively as a feature in Gothic Revival architecture. (See "Bargeboard" for illustration.)



Pilaster

A shallow pier attached to a wall; commonly used around doors and windows. Pilasters are often decorated to resemble classical columns and are generally fluted (with grooves and channels) or reeded (the opposite of fluted; a series of convexities like a bundle of reeds.)

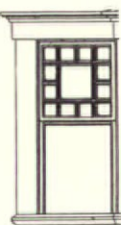


Fluted

Reeded

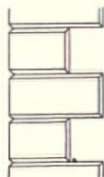
Portico

A porch, entrance way, or walk consisting of a roof supported by columns.



Queen Anne Window

The Queen Anne style house, popular in the last quarter of the 19th century, revived many features from the 18th century. One was the small glass window pane, but arranged in a different form and usually only on the upper sash.



Quoin

The stones or bricks which form the corner of a building, often distinguished decoratively from the adjacent masonry.

Revival Architecture

During the 19th century many historic styles from preceding centuries came into fashion. The first significant revival came in the early part of the century with the Greek style. As happened with the later Revival styles, The Greek Revival began with public buildings. They were in almost exact imitation of the ancient Greek temples. Thousands of domestic versions followed, incorporating some of the prominent features of this historic style.



Greek Revival

This style had a very long period of revival--1820 to 1860. There was an emphasis on columns and pilasters, from a small portico to the elaborate Southern version, as well as use of the triangular pediment.

Popular from 1835 to 1860, Gothic was used for churches, civic buildings and houses--from small wooden cottages to stone houses. Sharply pointed gables, lancet windows, and wooden bargeboards with gothic motifs were all used to give a picturesque, medieval appearance.



Gothic Revival



Italian Villa Style

Originally inspired by the anonymous farmhouse architecture of the Italian countryside, the revival was popular here from 1845 to 1885. Features are: an asymmetrical arrangement of square shapes and lines, flat or low pitched roofs, heavy cornices with brackets and often a tower or belvedere.

The most popular style of all, the Tudor Revival continues today. Drawn from the 1500s Tudor period in England, its most prominent feature is half-timbering and often includes medieval windows and large chimneys. It was in great vogue in the late 1800s. Also called the Elizabethan style.



Tudor Revival



Romanesque Revival

Popular from 1870-1900, Romanesque recalled the massive effect of stone buildings in the period before medieval Gothic. Houses in this style were stone or shingle, large and low, with many rounded windows and round arches. Chimneys were squat to keep the low, solid shape.

The sparing use of classical decoration in architecture and furniture during the reign of Queen Anne (first decade of the 1700s) was the inspiration for this revival. Popular from 1375-1900, it actually was a conglomeration of Colonial features, medieval towers and windows, and large porches, arranged in an asymmetrical composition. Queen Anne houses have a great variety of shapes and textures as well as a wealth of ornament.



Queen Anne Style

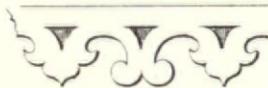


Colonial Revival

Interest in America's 18th century heritage was revived by the Centennial Exhibition of 1876. From 1890 to 1920 a great many houses were built that echoed the styles of the early English, Dutch and Spanish settlers. Some houses were built as exact replicas of the Georgian manor house or the Federal style, while most were, in size and shape, built in the earlier Victorian form with Colonial details (Palladian windows, columned porticoes, classical pediments, etc.)

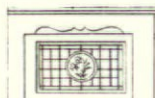
Sawn Wood Ornament

Ornamental woodwork, popular in the Victorian era for trim on porches, eaves, fences. Often called gingerbread, scrollwork and fretwork.



Soffit The underside of any subordinate member of a building, such as the under surface of an arch, cornice, eave, beam or stairway. (See "Eaves" for illustration.)

Stained Glass Window A window with a painted scene or words on the glass that is then fired onto the glass. Windows with just colored glass are often called stained glass, but a true stained glass window is more the product of the art of the painter than the glazier.



Swag A festive decoration of semi-loops with loose ends, similar to a swag of fabric. They are also called festoons, and when composed of flowers, called garlands. Swags in stone, wood or stamped metal were popular ornaments for the Queen Anne and Colonial Revival houses.



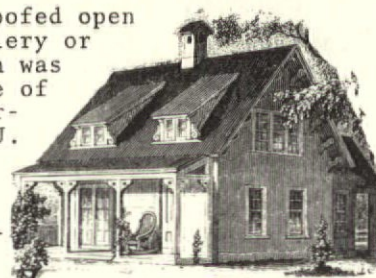
Tracery Delicate ornamental work consisting of interlacing lines, the intersecting of ribs and bars, as in rose windows and the upper part of Gothic windows.



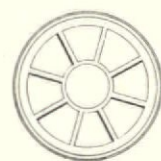
Transom Window Any small window over a door or another window, often containing stained or leaded glass.



Verandah A roofed open gallery or porch. The verandah was an important feature of the romantic, picturesque styles of A. J. Downing in the mid-19th century--the Italianate, Gothic Revival and Bracketed cottage. It remained a popular feature of American architecture throughout the 19th and early 20th century.



Victorian Term used to cover all the various kinds of houses and public buildings built during the reign of Queen Victoria--1837 to 1901. Although "Edwardian" is used in England to describe buildings in the first decades of the 20th century, here in America they are generally known as "turn-of-the-century." The styles popular in the latter part of the 19th century--Queen Anne, Colonial Revival, Stick and Shingle--continued to be built right up until the First World War.



Wheel Window Round windows with mullions radiating from the center, as in the spokes of a wheel. Also called Catherine-wheel. Those with tracery are generally known as Rose Windows, while the round window without tracery or mullions is known as an "oculus" or "oeil-de-boeuf"--Bull's Eye Window.



Widow's Walk A narrow platform on a roof, usually with a wooden balustrade. It was originally a feature of the early New England house with a view of the sea. Today it is often used to denote any small roof top with a balustrade or cresting.



THIS SELECTED GLOSSARY of exterior decorative terms has been designed to encourage a better understanding of old houses found around the country. It is not meant to be a comprehensive annotation of historic architecture but rather a helpful guide for the old-house owner.

Copies, in the form of a 4-page brochure, will be available through The Old-House Journal. Single copies are 50¢, 10-25 copies are 15¢, and larger quantities are 10¢ each. Write to: The Old-House Journal Reprint Dept., 69A 7th Ave., Brooklyn, New York 11217.

THE SPEED AT WHICH AIR FLOWS will enhance its cooling ability. The ideal for encouraging the largest volume of air flow is to have input and output vents equal in size. The faster air flows, however, the cooler and less humid it seems. So in damper climates the input vent should be smaller than the output vent. This constricts the air and speeds its flow at the input, making it seem drier and cooler. A fan will also increase air speed, but more on that later.

NOW YOU CAN SEE how, with a natural current passing up the "stack," you can control the direction of the draft. By opening and closing selected doors you can direct the air into certain rooms and keep it out of others. Old houses were designed with an eye to controlling air currents--summer and winter. That's one reason they had so many interior partitions and doors. If you remove any of the doors or partitions, you are reducing your ability to control air movement within the house.

AS THE DIRECTION OF THE SUN CHANGES you can switch your input and output windows so that input is always low on the cool side and output high on the warm side. At night, when all the air around the house is cool, open the windows in rooms you occupy so that the largest volume of cooling air flows through your "stack."

BEFORE ELECTRICITY, the occupants of your home had to rely on these natural air currents for cooling. So they built features into homes which aided the system. Deep eaves and gables to shade the outside walls have already been mentioned. Canvas awnings, now nearly extinct, went up every summer to shade the windows. Awnings are most effective on the south wall of your home, where they can block all the sunlight. On the east and west walls, the awning will still admit the sun's heat those brief hours when the sun is shining directly into the windows.

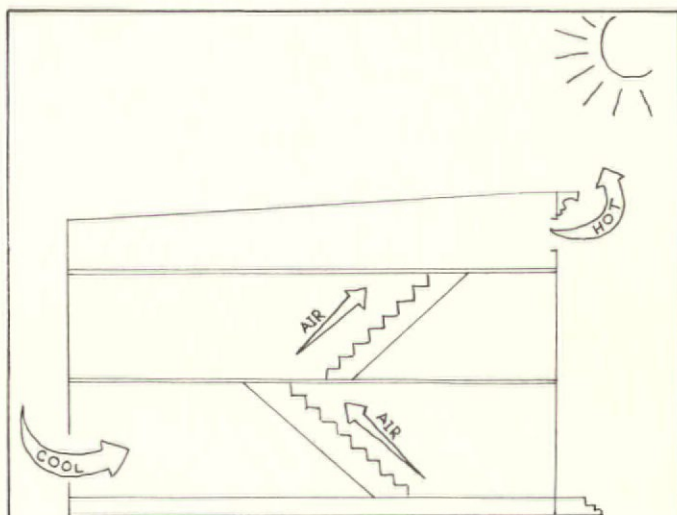
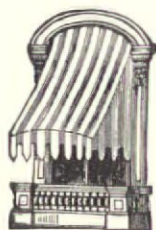
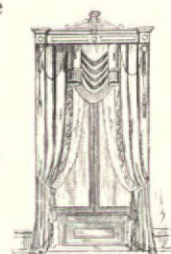


FIGURE 1: "STACK" OR CONVECTION COOLING



INSIDE THE HOUSE, shutters and curtains were used to help the cooling process. This was done by tightly shutting windows on the sunny side to keep the heat out. High ceilings also help keep living areas cool and create open



spaces for better air circulation. The double set of doors on the vestibule entrance traps heat, keeping it out of the house. These double doors functioned much like the modern storm door.

YESTERDAY'S HOMEOWNER kept an eye on the location of the sun and opened and closed windows and vents accordingly. Maybe it's an old system, but it still works.

IT MAKES LITTLE SENSE to run an expensive air conditioner to keep your house at 70° when the basement air is cooler and the air outside in many places is cooler too. Yet the reliance on air conditioning does just this--and has caused us to ignore the features of old houses which were put there to make life more comfortable in the summer.

Attic Fans

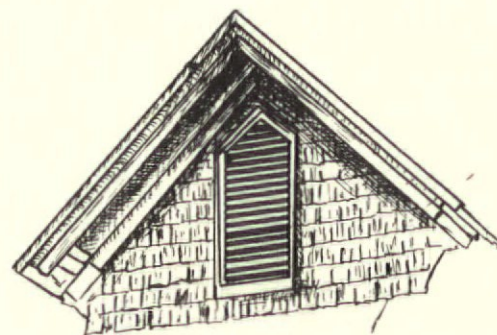
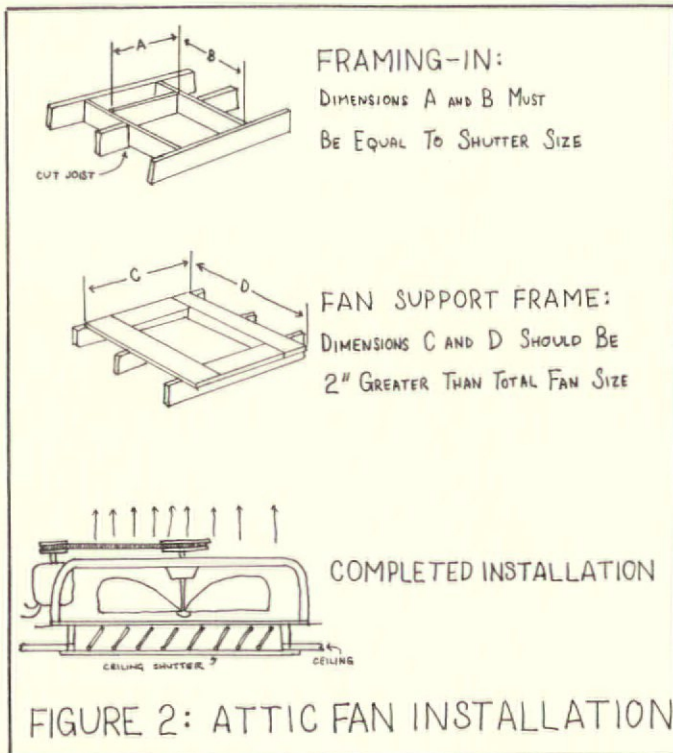
NATURAL VENTILATION is great as far as it goes, but that isn't far enough in the really hot months. The faster the air flows, the cooler and drier it feels, so it is logical that a fan-forced system will work better. We installed a 10,000 CFM (cubic feet per minute) fan in our attic in downtown Baltimore, and our home is now more comfortable than it would be were it centrally air conditioned.

THE FAN, located at the output end, pulls air in any window we choose to open. It required no ductwork, no unsightly compressor, and uses one-tenth as much electricity as a large window air conditioner. As such, it's merely an extension of the old-fashioned convection cooling principle and allows us to take advantage of the architectural features mentioned above.

ATTIC FANS come in sizes from 6000 CFM to 12000 CFM. If you live in the North, the fan you buy should change the air in your house every two or three minutes. In the South, every minute is advised. Compute the volume of your home, subtracting closets and rooms you keep closed in the summer, and you can figure the size fan you'll need.

THE FAN SHOULD BE CENTRALLY LOCATED, or near a stairwell. It rests on a gasket mounted on the floor joists in the attic, and is controlled by a switch below. Louvers in the attic cover the fan, opening as cool air is pulled through. Adequate venting is required through the roof to exhaust the hot air.

THESE FANS ARE NORMALLY a minimum of two feet in diameter, so you will have to cut a joist to install them. Begin by marking on the ceiling below a square which, when cut



The deep eaves on Victorian houses were designed to shade the house's windows, keeping it as much as ten degrees cooler in the summer. The eaves also represent a perfect location for attic vents, an easy installation that would not harm the lines of the home.

The louvered vent pictured would provide all the open ventilation required for a fan up to about 6000 CFM.

out, will accommodate the ceiling shutter. Cut the ceiling with a jig saw or keyhole saw, and cut the necessary joist from the attic above. Working in the attic, you must frame in the opening to tie the cut joist to solid joists on either side and provide the surface on which the fan rests. It's not a difficult piece of carpentry, especially if you have headroom in the attic.

OUR FAN IS CONTROLLED by a line thermostat which turns it on when cool air is needed. Now, with the fan on, it's necessary only to open windows low on the cool side, or windows in rooms we wish to cool. A strong breeze is maintained all day, and the house stays comfortable as long as you pay attention to the features mentioned earlier: Shutter sunny windows and open windows on cool sides only. On the very hottest days we pull air through the basement, where it will be cooled, and into the house. The fan goes on and off as it is needed.

Roof Vents


THE THIRD PART of the system is the roof vent. A thirty-inch fan that moves 10,000 CFM will need fifteen square feet of open vent, or 1.5 square feet per thousand CFM. This is a big hole in your roof, and can be unsightly if not planned properly. We were fortunate that our flat roof is not visible from the street or yard, so we simply cut a large hole in the roof and built a hood over it to keep rain out. Half-inch chicken wire bars the opening to birds and iron bars arranged over the hole discourage human predators.

IF YOU DON'T SHARE our flat roof, however, venting will have to be more cleverly devised. Some homes have vents in the gables already, and these can be used if large enough and unclogged. The most common type of attic vent is in the eaves--the soffit vent. With the broad eaves of older homes, a great deal of space is available for vents. By cutting a long vent, for instance, in an eave a foot wide and twenty feet long, you can provide all the vents you'll need for a 10,000 CFM fan. Like all other vents, this one will have to be covered with mesh or louvers. One caution: Don't put the vent near a window you plan to open to draw cool air, or else you'll find yourself recycling your hot air exhaust. I keep a couple of loose batts of fiberglass in the attic to cover my vents come winter.

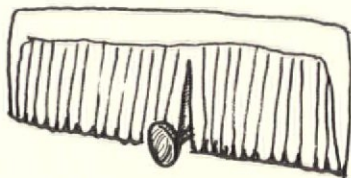
Astounding Results

THE RESULTS ARE ASTOUNDING. Our house was never designed for central heat or air conditioning and distribution of centrally air conditioned air would be poor. We tried window air conditioners. They were great as long as you were right next to them, but the large rooms kill their efficiency. Besides, they were ugly hanging out the perfectly proportioned windows of our brick rowhouse.

ENTER THE ATTIC FAN. We can stay comfortable in most rooms and the electric bills no longer soar in competition with the mercury.

ONE FINAL NOTE: Attic fans are often on sale in the fall, and the attic will be cooler for you to work. The whole installation shouldn't cost more than \$150.00. 

Restorer's Notebook



Tack Holder

THE LAST OLD HOUSE I restored had several staircases—and the carpet on all of them needed replacement. Putting in that much stair carpet requires a lot of carpet tacks, which can also result in a lot of banged thumbs and fingers getting the tacks started.

I FOUND a sure-fire trick that saved both fingers and temper: Wedge the tacks between the teeth of a comb. The comb then holds the tacks upright until they are firmly started in the wood. This method can also be used for starting small brads in wood, hanging pictures, etc.

Frederick A. Mohler, III
Lancaster, Pa.

Damaged Plaster

IN THE INTERESTING recent article on restoring damaged plaster (OHJ, Feb. 1979), I did not note any reference to a product that we use as a standard step in such work performed by the National Trust's Restoration Workshop.

PRIOR TO APPLYING new plaster to patch old plaster, we apply a bonding agent. These bonding agents adhere strongly to the old plaster and lath and the new plaster in turn bonds strongly to the bonding agent.

BONDING AGENTS are available through masonry supply stores. There are different formulations. Some, for example, are for materials such as concrete. It is important to find one specifically blended for plaster.

TWO PRODUCTS we have used are: Link, manufactured by Sta-Dri Co., Odenton, MD; and Plaster Weld "Liquid Lath" by Larsens Product Corp., Rockville, MD. I am sure there are other products on the market of equal quality.

Alan D. Keiser, Chief
National Trust Restoration Workshop
Tarrytown, N.Y.

Removing Old Linoleum

BY TRIAL-AND-ERROR we found a method that works very well for removing old linoleum and paste from hardwood floors. It's a varia-

tion on the technique reported in The Journal in January 1977, p. 2.

WE HAD TWO ROOMS in which linoleum was hiding beautiful hardwood floors. We found that by ripping or slicing the top layer of linoleum off, you arrive at the glue and black backing paper. To loosen this material, we used a commercial wallpaper remover solution. This is a material you buy in bottles at a paint and wallpaper store and mix with water.

THE RESIDUE of linoleum paste is then soaked with this wallpaper remover solution, using sponges or mop to apply it. After each soak, the residue was scored with a knife—horizontally, vertically and diagonally—to achieve greater water penetration. We then used a putty knife to scrape up the softened material and paper towels to soak up the water.

IT IS A MESSY JOB, but it's the easiest way we've found to do it. The beautifully finished oak floors made the effort worthwhile.

Rita Angeli
Rhineland, Wi.

Antiquing Nails

IN THE APRIL ISSUE, a reader suggested using gun bluing on nail heads to give them a more desirable old look on projects where the heads show.

WHILE GUN BLUING works well on individual pieces (and especially large hardware) the necessary cleaning beforehand and polishing afterwards can be very tedious if you have a lot of nails or hardware to "antique."

HERE IS A METHOD I have used successfully to produce an antique look on large quantities of nails and/or hardware. Put the nails, etc., in an old pie plate or disposable aluminum plate and heat them dry until they turn a straw color (before it gets to red hot). I was able to get this degree of heating by just placing the pan on top of our gas stove.

IMMEDIATELY DUMP the heated metal into a can full of linseed oil. When they are cool, drain and dry. The oil absorbed into the surface during this process also tends to inhibit rust.

Jonathan Poore
Brooklyn, N.Y.

Got Any Tips?

Do you have any hints or short cuts that might help other old-house owners? We'll pay \$15 for any short how-to items that are used in this "Restorer's Notebook" column. Send your hints to: Notebook Editor, The Old-House Journal, 69A Seventh Avenue, Brooklyn, N.Y. 11217.

Helpful Publications

Historic House Interiors

Reviewed by:
Douglas S. Fischer, Director
Regional Conference of
Historical Agencies
Manlius, New York

WILLIAM SEALE has produced one of the finest books on the historic house interior yet written. If you have been raised in the shadows of Winterthur's gorgeous period rooms and have visited any of the hundreds of historic houses with the finest high style furnishings on east coast, it will come as a shock that it was rarely, if ever, that way.

SEALE CALLS these attractive settings expensive suburban living rooms a la Grosse Point, Michigan and Larchmont, New York. The tendency of most historic recreations is to feature objects that kindle strong aesthetic responses. That shouldn't be and never was.

IF YOU ARE THE OWNER of an historic house or the director of a house museum and are seriously interested in documenting what was or might have been, William Seale takes you step-by-step through the process. He reviews the written records, documenting the objects, reading and re-searching the house and the developing of a collections list.

ALONG THE WAY you will probably find many of your conceptions of 18th and 19th century interiors destroyed.

ARCHITECTS AMONG OTHERS fall victim to Seale's pen. "Since the beginning the architectural point of view has dominated historical restoration, and this has created an unfortunate imbalance." Architects tend to ignore the particular building and lean toward recreating what he calls "academic typicals." The rule in recreating the historic interior is to let the human factor take precedent over everything else.



IN SECTIONS ON FURNISHINGS Seale admits to not being encyclopedic. You can get that elsewhere. He carefully helps us look at furniture, transient objects, lighting and textiles keeping in mind the human element. Half the book is illustrations with a balance between "historical" and documentary views and present day views taken in museum houses. He is critical of many of the current views and points out why some work and others fail. The book concludes with an excellent bibliography that includes the important primary and secondary sources.

RECREATING THE HISTORIC HOUSE Interior" is an important addition for the libraries of those who want to learn more about their old houses.

COPIES MAY BE PURCHASED through the American Association for State and Local History, Dept. OHJ, 1400 Eighth Ave. South, Nashville, TN 37203 for \$22.00.

Products For The Old House

Early American Hardware

EARLY AMERICAN home owners in need of new or replacement hardware would do well to send for Richard E. Sargent's catalog of handforged items.

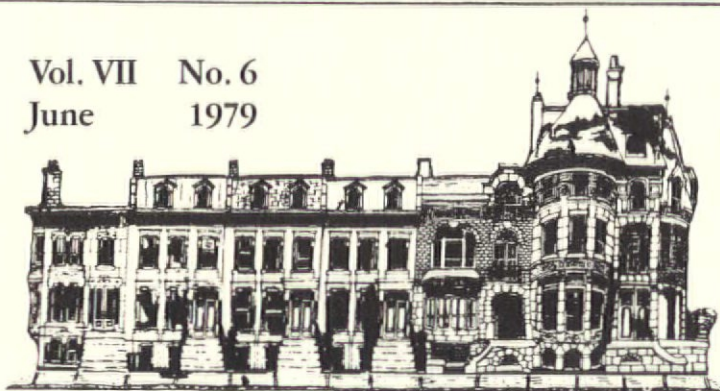
THE CATALOG shows the most common pieces of hardware used in the 17th and 18th centuries, but he will also reproduce items from original pieces, dimensioned drawings, photographs and references to recognized books in the antiques field.

ANOTHER SARGENT SERVICE is the repair and restoration of old locks. He also makes some Colonial lighting devices like the betty lamp and the primitive rush light. If you are interested in these items in particular, mention it when you write for the catalog.

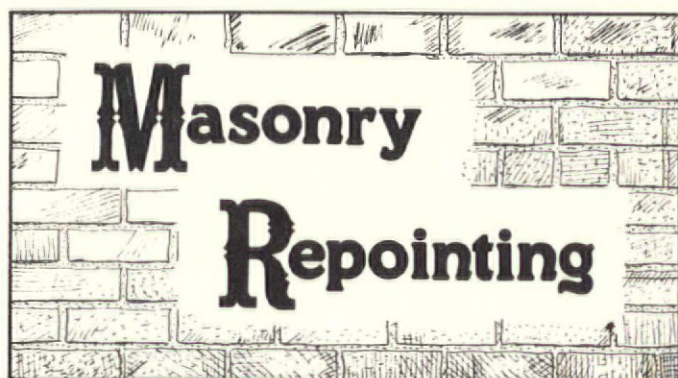
CATALOG is \$2.00. Write to: Richard E. Sargent, Box 83, Dept. OHJ, Hartland Four Corners, VT 05049. Telephone: (802) 436-2537.

THE OLD-HOUSE JOURNAL

Vol. VII No. 6
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Restoration And Maintenance Techniques For The Antique House



By Frederick Herman, AIA

IN OLD HOUSES, that element which one usually regards as the most permanent often becomes the most troublesome. That element is the masonry work, be it brick or stone. Although there are many different types of masonry problems, this article is going to focus on repointing.

THE MOST COMMON MASONRY problem is that the mortar has deteriorated over the years; the face of the remaining mortar may be a half-inch or more to the rear of the face of the brick. Actually, this weathering of the mortar is the way things ought to be. The mortar is not meant to be a permanent part of a masonry wall, but rather a flexible, expendable component that does have to be replaced at periodic intervals.

REPLACING THE old missing mortar with new is a process called "repointing." In theory, the process is simple, but the "how to do it" aspect is not.

FAULTY REPOINTING has left more walls disfigured than any other cause with the possible exception of damage done by sandblasting. The latter, combined with indiscriminate pointing, can literally



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Coming Next Month

STUCCO REPAIRS

transform a wall consisting of brick with mortar joints to one of mortar with brick polka dots—and a limited life span.

HERE ARE SOME of the key elements to keep in mind if you have a masonry wall in need of repointing:

THE EDGES OF BRICKS, over the years, usually become worn and rounded. If great care is not exercised to keep the new mortar recessed in the joint, a very wide mortar joint will result—which is completely out of character with the rest of the work.

IF THE EXISTING MORTAR has weathered, and if you had tooled joints of some type or other, the mortar will have lost the distinct profile it possessed originally. This means that you should not try to match the joint as it originally looked, but rather to try to create a joint that has the look of being weathered and aged. Avoid at all cost anyone or anything that promises that your wall will "look like new." The last thing you need on an old house is a "looks like new" exterior.

(Continued on page 66)



Insurance For Historic Houses

To The Editor:

REFERRING to your article in the February 1979 issue of OHJ on insurance coverage for historic homes, there is another possibility that might interest your readers.

HISTORIC HOUSES of museum quality usually contain a variety of features that are truly irreplaceable. These features often mean that the house, taken as a whole, is also irreplaceable. Therefore, the normal "replacement cost" evaluation for insurance purposes simply does not apply. If anything like a realistic replacement cost figure could be calculated, the premiums would be far out of reach of most owners.

OUR ORGANIZATION has secured "Stated Value" coverage from the Indiana Insurance Company of Indianapolis, IN, and from Wolverine Mutual Insurance Company of Dowagiac, MI.

CONSIDERING POSSIBLE LOSSES from many sources, including fire, windstorm and vandalism, we determined the extent of loss beyond which it would be meaningless to repair or restore our historic house. We arrived at an agreed figure of \$50,000. This is the maximum we would receive for any single loss.

IF THE HOUSE is struck by lightning and the roof is burned off, we have \$50,000 to repair it. If a vandal throws a stone through a stained glass window, we would have up to \$50,000 to repair it. If a wastebasket fire damages the carved sideboard in the dining room, we have \$50,000 to find a woodcarver who can repair it.

IN OUR JUDGMENT, the agreed value is sufficient to repair or restore damaged areas without voiding our right to present the house as an authentic "pure" restoration of 1888. If damage from a fire or other loss exceeds the stated amount, we would simply have to declare the game over and go out of business. But our feeling is that any repairs beyond the stated value of our policy would be so major that it would no longer be the same house anyway.

ANOTHER POINT OF INTEREST might be the insuring of volunteer workers against accidental injury or death. Through the National Casualty Insurance Company of Southfield, MI, we carry very liberal coverage on all our volunteer workers. Workers must sign a calendar "appointment book" whenever they enter the premises—regardless of how long they will be

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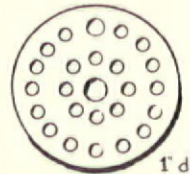
working. (Tourguides are usually on the property for three hours at a time; restoration workers usually work four hours per session.)

ON THE BASIS of the "sign in" book, we pay an insurance premium of 13¢ per person per work session—regardless of how much or how little time the volunteer actually puts in. In this manner, we have complete flexibility in the use of our volunteer workers. There is no need to keep a roster of those covered (in advance of their working), and we pay only for those who actually enter the work area.

TWICE EACH YEAR, the insurance company picks up the book for a few days, counts the names, and sends us an invoice.

Herbert A. Strum, Vice President
Hackley Heritage Association
Muskegon, Mich.

Wanted: Plaster Repair Discs



To The Editor:

I DO A GREAT DEAL of repair and restoring in old houses locally.

ENCLOSED YOU WILL FIND a sketch of what I call a "plaster repair disc." I have used thousands of these discs over the years to repair loose plaster. But recently, I lost my local source of supply.

BY ANY CHANCE do any of your readers know of a source for these discs?

J. Roland Morin
Brunswick, Me.

Mid-19th Century Wallpapers

By Carolyn Flaherty

OWNERS OF MID-VICTORIAN homes who have been looking for appropriate wallpapers are in luck. The Birge Company, which manufactures a moderate-priced wallcovering line, has just put some wallpapers on the market that have the advantage of being inexpensive, well-done and historically interesting.

BUT, MOST IMPORTANT, they are from a period (the 1850's) that generally receives scant attention from manufacturers. There are five patterns, all available from wallpaper and department stores around the country. If your local store carries Birge papers, but doesn't have this line, you can order the pattern by name. They are contained in the "Colonial Collection, Volume 59". The reason for bringing these papers to the attention of Victorian house owners in this article is my belief that one is not apt to go looking for a mid-Victorian wallpaper in a collection with that title.

HOWEVER, MANUFACTURERS are convinced that "Colonial" sells, and until their attitudes mature, some decorating detective work is necessary. Before describing the available designs, let me give you a brief history of the origin of the papers.

Origin Of The Designs

BIRGE WALLCOVERINGS, the oldest wallpaper company in America, made six wallpapers in 1923 for the newly reconstructed Theodore Roosevelt birthplace in Manhattan. In 1976, as part of an extensive restoration of the Roosevelt mansion, the National Park Service asked Birge to reproduce the papers made in 1923. Samples of the papers were found in the company archives and five were reproduced.

THE SIXTH PAPER defied Birge's present technology. A 23-color Rococo Revival design, originally handblocked, it required 23 separate silk screens. Sunnyside Prints, a custom-duplicating firm in Queens, N. Y., was able to produce the paper after more than a month of



Birge "New England" pattern as it appears in the dining room of the Theodore Roosevelt birthplace. Detail of pattern below.



artwork, screen production and color separation. Now in the Roosevelt mansion parlor, the paper is \$95 per roll (25 roll minimum order) through the Theodore Roosevelt Association. Inquiries can be directed to them at the address for the Roosevelt birthplace. (See caption.)

Gothic Revival Wallpaper

MY FAVORITE PAPER in the Birge collection is one absurdly titled "New England." It is actually a Gothic Revival design--a real rarity in today's market.

IN 1850, Alexander Jackson Downing, who popularized the Gothic Revival in America, was advising homeowners to paper with a Gothic design, preferably "those with some architectural expression." Gothic architectural papers had been popular in England for a long time. A more elaborate version of "New England" with multiple tall Gothic spires, c. 1840-1850, is on display at the Victoria & Albert Museum in London.

THIS PAPER is used in the Roosevelt dining room. Historically, dining rooms and libraries were the rooms most often decorated in the Gothic style. Downing also recommended architectural papers for halls.

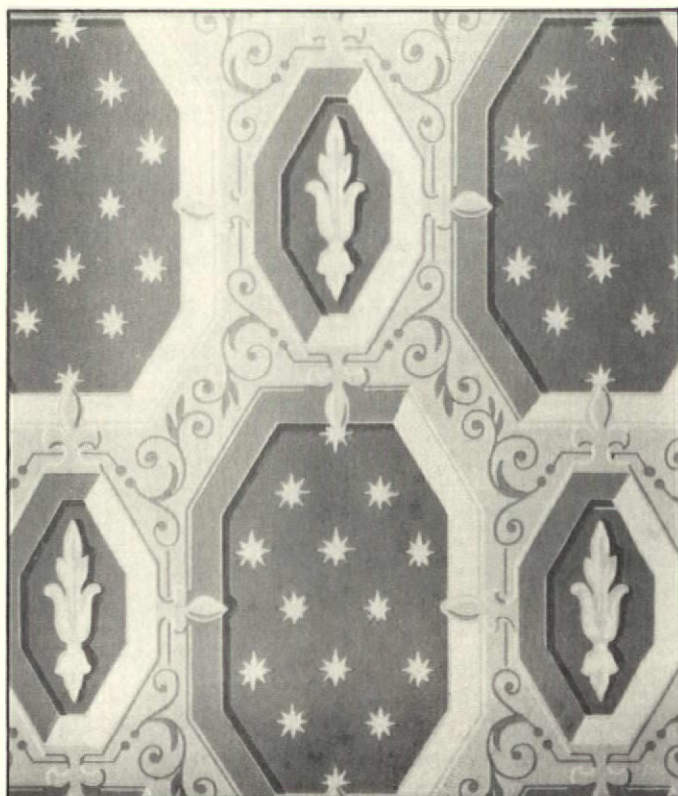
A GOTHIC REVIVAL design is appropriate for many houses built after 1840 through 1870, especially those in the Gothic Revival style, Carpenter Gothic, cottage styles, or any plain house of that period that wants for a bit of dash.



Exterior of the Theodore Roosevelt Birthplace, now a museum open to the public at 28 East 20th Street in New York City.

Plasterwork Pattern

THE PATTERN USED IN THE LIBRARY is actually a true architectural paper. Rather than representations of actual buildings, it is a three-dimensional design of an architectural element. In this case it is ornamental plasterwork. While the plaster design is vaguely reminiscent of 17th and 18th century design, the paper is named "Victorian."



Detail of the "Victorian" pattern.



The walls of the Roosevelt library are covered with "Victorian," a red and cream pattern. The room typifies the decoration of the 1850's--Belter-type chairs upholstered in deep blue, elaborate plaster mouldings, a center table with lamp, and overall a solid look of respectability.

THE "VICTORIAN" is a versatile pattern and could be used in many 19th century homes. The warm red background would lend itself to a room with a lot of wood as well as rooms with decorative plaster.

THE BEDROOM AND NURSERY papers are of interest for their authenticity. The nursery paper, "Roosevelt," is the kind of landscape paper popular in the mid-Victorian era and the coloring is intense as it was then. It is a very strong design, however, and should be used sparingly. "The Jeffrey" is a good bedroom wallpaper and, while not unusual, it is quite charming and simple.

"COLONEL POPE" is an oddity. It was designed in 1923 by an architect working on the Roosevelt house. This kind of cut-stone pattern was often used in Early American homes. It is a good design for a hall, but note that it is not an authentic mid-Victorian paper.

ALL OF THE ABOVE MENTIONED patterns are included in the "Colonial Collection, Vol. 59." There are, of course, many other patterns in the collection but most are Early American of a kind that can be readily found.

BUT THERE IS AN exception I would like to mention. Also contained in this collection is a pattern called "Ford Theatre." It is a reproduction from a document found in the booth at the Ford Theatre in Washington, D.C. where President Lincoln was assassinated.

THE PAPER HAS a dark maroon background. A dull pink lace stripe and a leaf motif alternate and it has a small black motif also. The effect is quite rich and very Victorian. The cost is \$9.95 per roll. Birge has indeed done a good job of providing both attractive designs and historic authenticity at a reasonable price.



"The Jeffrey" is an old chintz pattern of blue mini-flowers and is used in the master bedroom where Roosevelt was born.



The "Colonel Pope" paper is actually a 1923 design. The interesting cut-stone pattern makes it very appropriate for halls.



"Roosevelt" is the name given to this landscape paper in the nursery of the Roosevelt birthplace. Due to poor health, the young Theodore spent a great deal of time in this room.

The colors used in the pattern are deep and intense as was the fashion of this period. Unlike most designs for children's rooms today, this scene has nothing to do with childhood themes such as nursery rhyme figures or cute animals.



This job is so badly botched it barely requires comment—yet someone did it. The mortar color is incompatible with the old; the new mortar is smeared all over the face of the bricks; and the patching brick doesn't match the direction of the old brick courses.

(Cont'd. from p. 61)

Matching Old Materials

ANOTHER PROBLEM lies with the materials themselves. The composition of mortar used a century or more ago was different from that of today's mortar—and the ingredients lacked the uniformity and purity to which we are accustomed today. The results are colors and textures that are exceedingly difficult to match.

TO THIS, you have to add the effects of age and the weather. Even if you achieve an exact visual match with new mortar today, the continuing different rates of aging in the new as compared to the old materials will soon result in a visible difference in color and texture.

THE SAME PROBLEM that applies to mortar applies to brick. Old bricks can range in hardness from the very soft (not much better than sun-dried clay) to the very hard with glazed crystalline surfaces. Their sizes—especially if they are handmade—vary, and their colors can fluctuate widely depending on impurities in the clay, proximity of the brick to the fire during the firing process, and even the types of wood used during the firing.

IF YOU NEED BRICKS to repair an old wall, your best best is to try to find a building of the same period, built of a similar brick, which is being torn down. If this is unavailable, you might be able to re-use some of your own brick...or salvage some for re-use from

interior walls in the cellar or other inconspicuous place. The problem is further complicated because builders in the past often used several types of bricks in their buildings: A good grade for the front facade; something cheaper for the sides not exposed to "formal" viewing, and the very cheapest bricks for backup.

AS WITH MORTAR, bricks change with age, and no new brick will exactly reproduce an old weathered brick. Even if it should, it will react differently to the elements and today's perfect match will be tomorrow's mismatch.

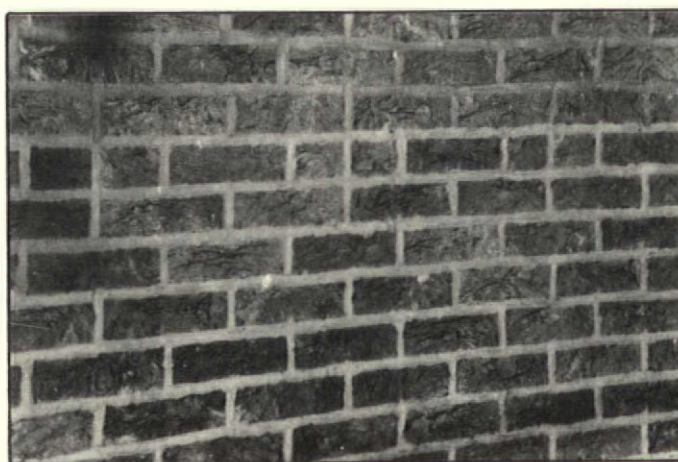
DOES THIS MEAN that you cannot hope to create a match if you have to repoint or repair an old brick wall? Unfortunately, to a degree it does. Even time will not do it. I know of one building which was constructed in 1845 and which had an additional storey added 10 years later using the same mortar, joining and bricks. Yet the difference resulting from the ten-year age differential is still visible to this day if you look for it.



SSORTED SUGGESTIONS such as smearing crankcase oil (with or without dirt mixed in), mud, soot, ashes and other substances on wall patches may sometimes temporarily disguise matters. But they will not provide long-term matching.

THE BEST ONE CAN HOPE FOR is to match the wall as closely as possible with respect to the brick, mortar and shape of the joints. Be sure the materials are compatible physically. And do not do anything that will cause irreversible damage—such as sandblasting in the name of repair and restoration.

YOU MUST REALIZE that brick, stone and mortar all age as an inevitable part of their life cycles—and that is part of masonry's charm. Regard a patch not as a disaster, but as part of



Double Trouble: Sandblasting has worn away the hard facing of the brick, making it vulnerable to water damage. A hard portland cement mortar used for repointing has encroached onto the face of the bricks; further spalling is likely.

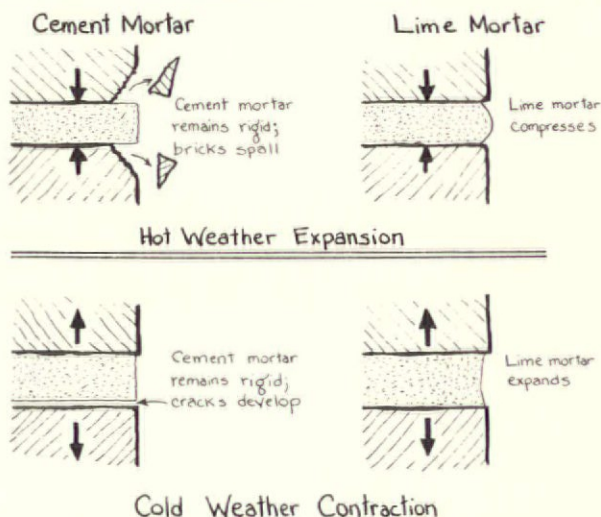
its character. Try to minimize the appearance differential of the patch as much as possible by careful choice of materials—but accept some difference as inevitable.

Do's And Don't's

TO A DEGREE, every brick restoration job is an individual problem and needs to be treated as such. There are, however, a set of general do's and don't's that should be followed in dealing with every masonry restoration project:

- Don't act hastily. You will regret later at your leisure.
- Don't sandblast. This permanently changes the nature of the brick and hastens its deterioration by exposing its soft interior areas to the elements.
- Don't use power tools such as masonry saws to cut out mortar joints. Invariably, these power tools eat into the edges of the brick, widen the mortar space and change the character of the joints.
- Don't use ready-mix or cement mortars if you are repairing or repointing old soft lime-based mortars.
- Don't use new bricks for repair. Their sharp edges and lack of weathering make them stand out too much from the old work.
- Don't try to turn the clock back and restore the wall to "as it was" a hundred or so years ago. All you will have is a new wall "in the style of" an antique which will not be compatible with the remainder of the original fabric. The only time that this should be considered is where an original wall has to be rebuilt because it has deteriorated structurally to a point that it is no longer safe.

Cement Mortars and Lime Mortars React Differently To Expansion and Contraction



Making Soft Mortars

THE TERM "soft mortars" relates to lime-based mortars that were in use until the introduction of cement mortars—which occurred roughly around 1850. Whenever you are patching or repointing an old lime-mortar wall, you should be sure to use a soft mortar that has the same physical characteristics as the old.

THE TRADITIONAL FORMULA for a lime-based mortar was as follows:

2½ to 3 parts of sand
1 part of hydrated lime

THIS WAS SOMETIMES IMPROVED by adding pulverized brick, clay or shells.

CONTEMPORARY MASONS find a pure lime mortar overly difficult to work with due to its softness and plasticity—and the time it takes to set up. To make a repointing mortar that is easier to work with—and yet compatible with the old soft mortars—a small amount of portland cement is added to the mixture. The formula is:

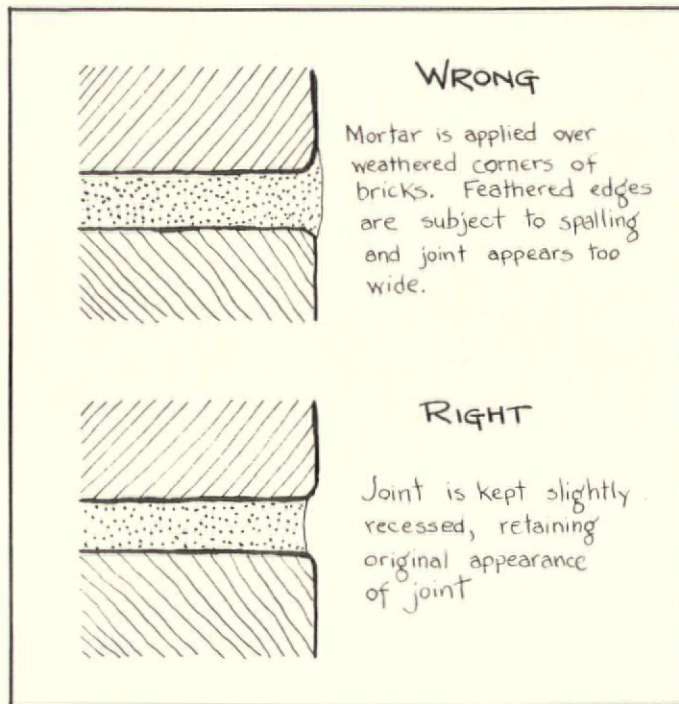
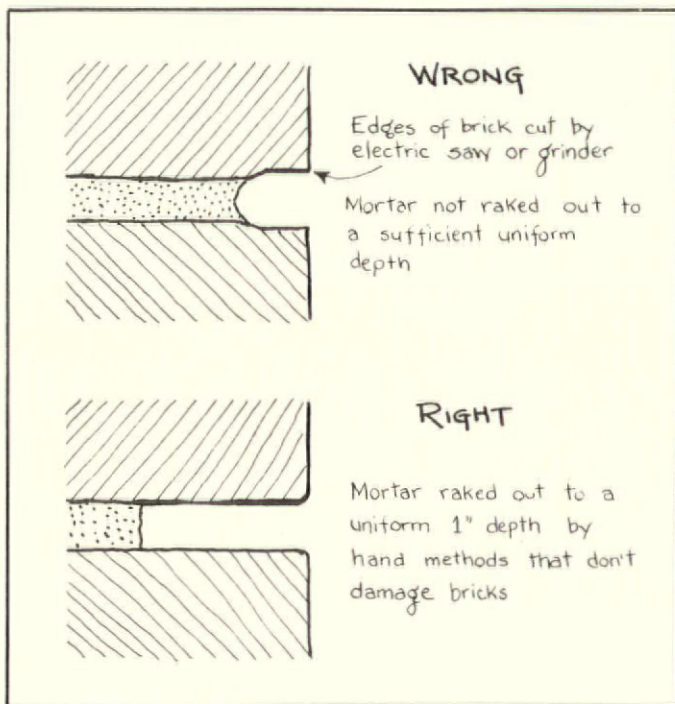
1 part portland cement
3 parts hydrated lime
12 to 20 parts sand

THIS MORTAR, though more rigid than an all-lime mortar, is still compatible with most early masonry work. There are some authorities who feel that you should only use an all-lime mortar in repointing early masonry. They cite the increase in rigidity caused by the addition of portland cement, and also claim that a better bond is obtained between the new and old mortar. This view, however, ignores the hydraulic reaction that apparently often occurred in old mortars, due to the many impurities present in both the sand and lime used.

EARLY MORTAR derives its color from three sources: (1) Impurities in the lime used. The lime could have come from anything ranging from fossil shells to limestone. (2) Variations in both the color and texture of the sand. (3) The effect of age and airborne chemicals on the mortar over the years.

YOU CAN MATCH the color of an old mortar by using chemical additives and coloring agents. But the match is only temporary. The additives will react differently to weathering than the old mortar—and so the patch becomes more apparent with time.

YOUR BEST COURSE is to try to match the original mortar materials as closely as possible—and then let time slowly blend the old and the new.



- Don't regard masonry repair and repointing as a do-it-yourself project. It is probably the most demanding form of brickwork, and only an expert mason should be used.

- Don't try to find a way to "do it cheaper." It cannot be done without sacrificing workmanship. Brick restoration is 95% labor and 5% material cost.

- Don't expect an invisible mending job. If the repair shows more than you had hoped, do not stucco or paint the whole thing out of frustration.

- Don't rush to apply sealants to a brick wall. You may find that you are not only keeping moisture out, but also in. This can create a whole new set of problems for you—including accelerated deterioration of the bricks.

AND NOW FOR SOME of the do's:

- Do realize that brick repointing and repair can be a slow and costly job. Obtain professional help if you have any special problems.

- Use compatible materials. Repointing with hard mortars in a wall laid with soft mortar will create a rigid area on the skin that will set up all sorts of new stresses and strains in the wall. Even in walls that were laid up with cement mortars, many experts feel that a high-lime mortar is best for repointing.

- Make sure that the mortar joints are raked out to a depth of about 1 in. by hand.


- Make sure that mortar joints are filled back properly. To fill in 1 in. of new mortar means it should be done in several layers rather than having them filled in at one time.

- Make sure that the joints are kept slightly recessed to avoid the creation of excessively wide joints. This can happen when the new mortar overlaps the rounded edges of weathered bricks.

- To create the appearance of age in the mortar joints, limit yourself to such methods as brushing or washing the joints before they are completely set up so as to expose additional sand to view.

- Reproduce the components of your old mortar as closely as possible. If your old mortar had bits of oyster shells in it, get some oyster shells, crush them and add them to your new mortar.

- Remember when using recycled brick to put the weathered side out. The side of a brick that has been buried in a wall will show no evidence of weathering. If the unweathered side is placed outward, you defeat the whole purpose of using old brick.

- Read as much as possible on the subject. One of the best sources is Preservation Briefs No. 2—"Repointing Mortar Joints in Historic Brick Buildings." You can get a copy free by writing to: Technical Preservation Services Division, Office of Archeology and Historic Preservation, Heritage Conservation and Recreation Service, U.S. Dept. of the Interior, Washington, D.C. 20240. 

Dr. Frederick Herman, AIA, has served as chairman of the Virginia Historic Landmarks Commission. He is also a partner in the architectural firm of Spigel, Carter, Zinkl, Herman & Chapman—Restoration Architects, 420 W. Bute St., Norfolk, VA 23510.

Removing Exterior Paint

By John F. Zirkle, Harrisonburg, VA

IT USUALLY DOESN'T TAKE an expert to tell when the paint on the outside of a house should be taken off before repainting. The obvious signs are peeling, cracking, scaling and alligating. Note that blistering is not mentioned. Blistering might indicate moisture behind the siding of the house and its consequent problems--more than just too much paint.

IF YOU EXPECT TO DO this work yourself (and we will discuss employing a contractor later) working from a ladder is the most practical method for one person alone. Three ladders are desirable, five and eight foot step ladders and a thirty-six or forty foot two-section extension ladder. If you do not own these, they are available usually at a local tool rental outlet. If necessary, you can get along with only one step ladder, but two sizes are more convenient. The extension ladder should be aluminum, but you, like myself, may prefer wooden step ladders.

Safety Rules

SAFETY IS YOUR MOST IMPORTANT consideration in using ladders. In placing an extension ladder against a house, the top of the ladder should be no more than four times the distance from the ground that the foot of the ladder is from the side of the house. In other words, the top of a ladder when placed against the house thirty-two feet above the ground should have its legs on solid footing about eight feet from the house. A two-section, forty foot extension ladder should not be extended beyond a length of approximately thirty-five feet.

AFTER WORKING FROM an extension ladder you may decide that it is easier to use your step ladders placed against the house just as you do the extension ladder, rather than trying to find a perfectly level patch of ground for all four feet of the the opened step ladder.

HERE I WILL REMIND you that sneakers and moc-casins are not made for ladder work. Heavy soled shoes are going to be the most comfortable and best in the long run.

SO FAR I HAVE MENTIONED ONLY LADDERS as the means of reaching your work. This may be because, as a house painter, I grew up with the idea of working from a ladder. Some



persons may prefer to work from a scaffold. Metal scaffolding may be rented in many areas and the people renting it will be glad to show how it should be erected. This erection is usually a two-person operation, however.

Blow Torch Dangers

BY NOW YOU REALIZE that you are going to need plenty of time and energy, and that you should decide how you are actually going to remove the paint. Unless you want to risk becoming a volunteer fireman, eliminate any idea of using a blow torch. This includes either butane or gasoline style torches. They are risky around a new house and more risky around an old one.

I HAVE KNOWN PEOPLE TO set fire to their own homes with a blow torch. In one case, a man working from a twenty-four foot ladder, removing paint from a cornice, set fire to the remnants of a bird's nest. The nest had been located on the elbow of a gutter downfall, and was just beneath the cornice. The fire which started with the nest, went through a dust-filled crack between cornice and weatherboarding. Inside the house it became a full fledged attic fire, causing several thousand dollars in damage before it was stopped by a local fire department.

ANOTHER TIME A PAINTER using a blow torch on the base of an old porch column set fire to the inside of the column. The result was that a new column had to be custom-built to replace the one which had burned.

Stripping Devices

PAINT REMOVER AND SCRAPERS are a messy, expensive method and, in addition, takes two hands. A heat gun is excellent if you are standing on a solid surface and can use both hands to work

at the same time (Ed. Note: The Journal does not recommend the heat gun for exterior work as it is too slow.)

MY CHOICE OF METHOD is a heavy duty disc sander and the use of floor sanding paper. These sanders have a motor housing somewhat like an electric drill or automobile polisher, and they can be held in either hand, which is a practical advantage when standing ten to thirty feet above the ground. Both Sears and Black and Decker have these tools on the market. These sanders hold a sheet of paper 5 in. to 7 in. in diameter. The coarse or medium grit paper which should be used may be purchased at a paint, hardware, or floor sander rental store.

THERE ARE SOME PRECAUTIONS TO TAKE when using these machines. Get a heavy duty machine recommended for continuous use (they can be rented if necessary). Using extra pressure (pushing) on the working area of the disc can overheat and burn out the motors of good machines, not to mention the bargain-priced tools.

Let The Sandpaper Work

LET THE SANDPAPER DO THE WORK. Your extension cord should be OSHA or UL approved even though you will be using household current. This means that your electric source will be properly grounded. Nails protruding from the siding should be driven in before sanding is begun. Some type of safety glasses should be worn while using the sander. In addition to the fine powder formed by the dried paint being removed, the sandpaper will sometimes throw off sparks when passing over a nail head, but with the safety glasses you should not let this upset you.

THERE IS ALSO on the market a mechanical paint stripper called the "Thompson Roto Stripper." At the present time this is made in three industrial sizes. I believe that this tool, while efficient, is more difficult to use, and that the disc sander is by far the simplest to use.

REMEMBER THAT ONE of the big advantages in using a disc sander is that it can be operated with one hand. A disadvantage is the fact that since the working surface is round, there will be small triangular corner areas which are not sandable. A pull-type hand scraper rather than a broad knife or putty knife should be used in these areas. Wire brushes are not recommended. They make a fine noise but do very little work.

ONE OTHER CAUTION should be mentioned. Regardless of the method you use to remove paint, it is likely to be a hot, dry, thirsty job. Postpone serious liquid refreshment until you are through with the day's work.

Hiring A Professional

BY THIS TIME, you may have decided that this removal job is not for you, and that you will contract with a professional to do it. Experienced contractors are not likely to be enthusiastic about giving firm prices for this


sort of work. And if you run into an enthusiastic one, there is a good chance he is not experienced.

MAKE UP YOUR OWN SHORT SPECS. Use the phrase "remove paint" or "remove all paint" and not an expression such as "remove loose and scaling paint," which is capable of misinterpretation. The contractor should submit a certificate from his insurance agency or company that he has the necessary compensation and liability insurance required in your state. If not, you will have to make sure that your homeowner's policy covers anyone working on your property so that you are protected from damage suits.

ORDINARILY, I do not approve of telling a contractor what tools to use, but in this case, I believe you might specify what tools not to use in this manner:

"At no time shall a blow torch or similar tool be used for the removal of paint."

UNDER NO CIRCUMSTANCES would I recommend hiring a contractor who insists on using a blowtorch. If your contractor is using a disc sander, the specs should also include a clause about sanding marks. Since the disc sander is a rotary tool, it can leave circular marks on the boards if the operator works too hastily with too coarse paper.

LAST BUT NOT LEAST, if you still insist that you are going to take off all the paint on your house, you will have the satisfaction of knowing that you are doing the job right 

The Self-Stripping House

AS THE ARTICLE ABOVE indicates, stripping all the exterior paint from a house can be a tedious and/or expensive proposition. The alternative to stripping all at one time is the "Self-Stripping Process."

AFTER THE PAINT FILM on a house builds to 3/32 in. or so, it becomes so impermeable that the pressure of water vapor trying to push through will eventually curl and crack the paint. Given enough time, the house will strip all of its old paint all by itself.

WHEN REPAINTING, you make sure that all loose paint is scraped off, and that all bare spots are primed before finish coat is applied. Obviously, those areas that weren't scraped down to bare wood will have a tendency to continue to peel. So you don't regard painting as a once-every-eight-years event, but rather a continuing process. You stand ready every spring to scrape and spot-paint those areas that have peeled in the last 12 months.

THE DISADVANTAGES ARE: (1) There will be slight unevenness between the scraped areas and the old thick paint; (2) The touch-up paint may not blend perfectly with the paint that has aged for a year or two.

--Ed.

Restorer's Notebook

Painting Tips

HAVE YOU EVER STARTED a painting job only to find that the bristles on the brushes you used last time are twisted and bent out of shape? If you are using nylon brushes (the type designed for latex painting) there's an easy solution. Put the brushes under a flow of hot water from the tap. This will soften the bristles and return them to their original shape. If you want to paint right away, put the bristles under cold water for a moment to set them in the correct shape.

THE SAME PROCEDURE will also work to a degree with the bristle brushes used for oil-based paint. But the brushes can't then be used right away because the moisture that the bristles absorb will interfere with the oil-base properties of the paint.

Richard K. Ross
Abbey Decorating & Repair Corp.
Denver, Colo.

Preventing Rust

FOR MANY YEARS I tried to find a method to keep my tools from rusting. Out of all the methods I tried, the following was by far the most successful. Mix 2 oz. of paraffin in one pint of carbon tetrachloride. Apply this mixture with a brush and when it dries it leaves a wax-like film on the tool that will not attract dust or grime the way other rust inhibitors do. Also, it is less messy to handle and is easy to wipe off when the tool is to be used again.

Frederick A. Mohler III
Lancaster, Pa.

Cover Your Stripping

STRIPPING off old paint is often unpleasant and expensive because of the numerous applications of stripping agent necessary to remove and soften the paint. I was in the process of removing several layers of enamel from the creases and convolutions of a walnut table leg when the fumes of the paint stripper made their impression on my thought process. It is precisely the penetration of the liquid stripper into the paint that makes it most effective, so why let the stuff evaporate and make my life miserable by allowing it to spread itself around in the air where it is least useful?

I APPLIED A HEALTHY LAYER of stripper to the leg and wrapped the whole mess tightly in an old dry cleaner plastic bag. The stripper I

was using did not affect the plastic, but it is wise to test your stripper on whatever plastic (garbage bag, food wrap, etc.) you choose before wrapping the project. The plastic serves to hold the stripper closely to the old paint while preventing its evaporation.

AFTER TWENTY MINUTES I unwrapped the table leg and found that all the paint had been softened even in the deepest creases. A second application was necessary in only a few spots.

THIS PROCESS HAS PROVEN ITSELF useful on all stripping projects since then, regardless of the shape or size of the area being stripped. It allows the application of chemical stripper to proceed with reduced respiratory aggravation. It gives me the freedom to treat a large area without the fear that it will dry out before I have a chance to remove the loosened paint. It reduces the amount of stripper necessary to achieve the desired effect.

Peter Eliot
Portland, Maine

Removing Paint Spots

IF ONE DROPS a bit of latex, not alkyd, paint on a rug, and said paint isn't so fluid it goes directly into the pile, just let it rest. Don't run and get a wet rag and wipe or scrub at it, as all this accomplishes is to drive the paint deeper. Rather, just let it dry for at least four hours, covering it with a coffee can and blinking red lights if necessary to prevent traffic from stepping on it. Most times, the paint will dry in a blob on the tip of those members of the pile it covers, and can be neatly lifted off with the aid of a razor blade. The tiny amount of short pile won't be noticed.

ON THE OTHER HAND, if a rag is used and much vigorous rubbing follows, a light stain is almost inevitable. Further, in loose pile rugs, such as shags or floppy loop piles, vigorous rubbing will result in a bunch of the short fibers becoming untwisted and the whole area will have the appearance of a batch of lint. This takes combing and possible razor blade shaving to remove, and neither remedy will get rid of it all. The result is a blemish, in color and texture.

David E. Hardingham
Reidsville, N. C.

Got Any Tips?

Do you have any hints or short cuts that might help other old-house owners? We'll pay \$15 for any short how-to items that are used in this "Restorer's Notebook" column. Send your hints to: Notebook Editor, The Old-House Journal, 69A Seventh Avenue, Brooklyn, N.Y. 11217.

Products For The Old House

Helpful Publications

Decorative Composition Embellishments

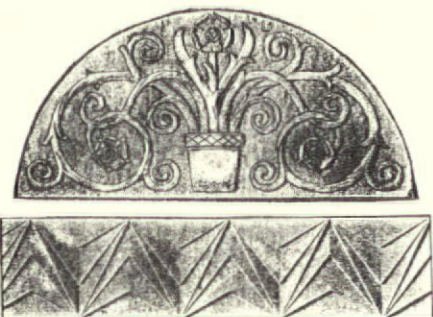
THERE IS A NEW SOURCE for composition ornament. The Lily Collection features hundreds of moulds for friezes, cornices, mouldings, beams, crestings, cartouches, ceiling medallions, niches, etc.

THE EXCITING PART of this collection is the various styles of the ornaments. Represented are Gothic, Grecian, Sunflowers in the Queen Anne style, Art Nouveau and Art Deco patterns.

THEY ARE ALL SHOWN in a large catalog containing 157 pages of items as well as a complete price list. The catalog is \$8.00. If you are interested in only one item, for example--a moulding, you can send \$1.00 and specify the item. They will send a photostat of that portion of the catalog.

THE ORNAMENTS are for interior or exterior use. Upon request, exterior ornaments will be sprayed with clear vinyl acrylic as a weatherproofers.

TO ORDER THE CATALOG, send \$8.00 to: The Lily Collection, Dept. OHJ, 1313 N. Main Street, Ann Arbor, Michigan 48104. Telephone: (313) 668-6324.



Gaslighting In America

GASLIGHTING IS THE SUBJECT of a new book that focuses on the types and styles of gas fixtures that appeared in the rooms and on the streets of 19th and early 20th century America.

THE BOOK IS actually a copy of a report to Federal agencies and local and State governments concerning techniques for restoring these fixtures in historic properties as well as guidelines to prevent anachronisms.

WHILE ALL THAT SOUNDS RATHER dry, the book is anything but. As written by Denys Peter Myers, it is an extremely readable account of the history of gas lighting which provides an interesting and sometimes amusing commentary on the needs and decorative aspirations of our 19th century citizenry.

THERE ARE 119 full-page plates. Most are from early catalogs depicting gas fixtures (from

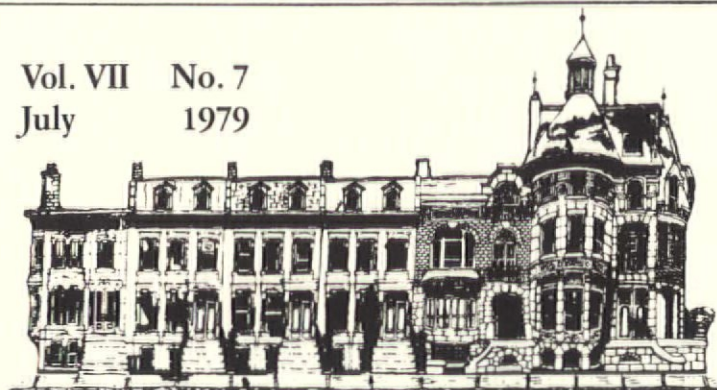
the simple iron "T" to the elaborate crystal chandelier) but there are also many drawings and photos depicting ballrooms, saloons, rooms of noted people, and street scenes.

"GASLIGHTING IN AMERICA" is a 279-page softcover book with bibliography and complete index. It is \$5.25, plus \$1.00 postage. Order from: Preservation Resource Group, Inc., 5619 Southampton Drive, Springfield, Virginia 22151.



THE OLD-HOUSE JOURNAL

Vol. VII No. 7
July 1979



Restoration And Maintenance Techniques For The Antique House



By Catherine & Donald Minnery, Vermillion, S.D.

WE LEARNED the hard way about making repairs in stucco. Before sharing our experiences with other Journal readers, however, we wanted to expose our repair work to the rigors of South Dakota's winter and spring weather. Although this weather has been harsh, our repair work has held up well.

OUR HOUSE is a somewhat plain stuccoed 1½-storey bungalow-inspired structure built around 1915. When we purchased it in 1976, we knew some work was needed on the exterior. Two small areas of the stucco had cracked, and some of the lath was exposed. But once we started work on the house, it became clear that every side of the house needed some work. We ended up replacing nearly all of the front facade.

WE SEARCHED IN VAIN for helpful how-to information on stucco repair. Little was found. And none of what we found dealt with matching texture of large areas of new work to the old stucco. Our stucco appeared to have been applied in at least two coats—and small chips of stone and perhaps shell chips were applied to the top coat before it dried. It appeared that we would have to improvise a method using available materials.

FROM OUR PREVIOUS RESEARCH, we knew that a "soft" stucco mortar would

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Coming Next Month

REPAIRING A COLONIAL ROOF

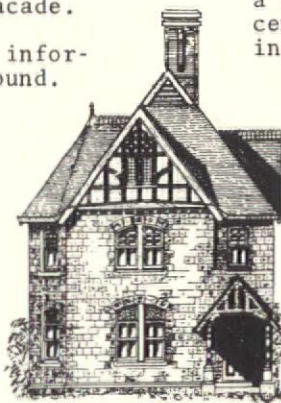
probably be desirable because it would be more elastic than a rigid portland cement mortar (see OHJ, June 1979 pp. 66-67). An elastic stucco would seem to have a greater chance of adhering to the wood lath during the wood's swelling and shrinkage with changes in moisture. But the stucco would also have to withstand moisture without weakening. So we decided that a good first or "scratch" coat would be:

1 part lime
1 part portland cement
5 parts sand

WITH THIS STARTING POINT, we purchased a half ton of sand, a half ton of pea gravel, a 50-lb. bag of lime and a 50-lb. bag of cement. We used a wheelbarrow as a mixing container, and a hoe served as our mixing tool. To apply the stucco, we purchased two trowels.

WE STARTED OUR WORK at the back of the house—reasoning that our initial experimental work should be in the least conspicuous area. Our application technique did indeed improve markedly as we gained experience, so we were very happy that our initial efforts are relatively inconspicuous.

(Continued on pg. 77)



The Old-House Journal Receives Award From The National Trust

THE STAFF AT The Old-House Journal, busily making preparations to celebrate our sixth anniversary, was delighted to learn that we had been selected to receive a coveted award from The National Trust for Historic Preservation.

THE GORDON GRAY AWARD for achievement in preservation was presented by James Biddle, president of the Trust.

MR. BIDDLE, in announcing the award during ceremonies at the Renwick Gallery in Washington, D.C., said in reference to The Journal: "This eminently practical guide addresses the most basic questions of renovation and maintenance for the owner of an historic house. Not only does it fill a vital need for the exchange of information among preservationists, but its usefulness is helping to attract new people to the field. You are rendering an outstanding service to the cause of preservation."

A TOTAL of 16 individuals, organizations and corporations were honored at the annual awards ceremony. The National Trust presents the awards as part of its mission to promote historic preservation in the United States.

THE OLD-HOUSE JOURNAL®

Published Monthly For People Who Love Old Houses

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THE TRUST IS AN EDUCATIONAL and charitable organization chartered by Congress to help Americans preserve sites, buildings and objects of national significance or interest, and has more than 155,000 members.



The staff of The Old-House Journal happily exhibits the Gordon Gray Award presented by The National Trust. The award consists of a certificate plus a silver goblet—a replica of a goblet ordered from London in 1777 by Justice Benjamin Chew. The

original is in The Trust's collection at Cliveden—Chew's country house in Philadelphia. Left to right are: Joan O'Reilly, Charles Johnson, Clem Labine, Carolyn Flaherty, Mike Carew and Patricia Poore. (Photo By Jim Kalett)

An Old Stone Federal House Redeemed

By Barbara Schiller

THE HOUSE PROUDLY BEARS a plaque proclaiming its birthdate. The stonework is beautifully crafted. The trim is carefully painted. Through the windows one can glimpse mellow old furniture. The grounds and garden are a delight.

IF YOU'VE EVER WONDERED about the lucky people who can afford to live in a house such as this, here is the story of one such family--Margaret and Carey Brush of Cooperstown, New York.

IT IS NOT A STORY of unlimited wealth. Carey is one of the staff of nearby Oneonta College. During the summers the Brushes rent rooms to people taking seminars at the New York Historical Association. It is, however, a story of great devotion and unceasing work to restore Greystone, their thirteen-room late-Federal style house built in 1831.

GREYSTONE HAD FALLEN on hard times even before the New York Historical Association had received it as a bequest in 1970. Feeling it wasn't feasible to retain ownership, they put it on the market in 1971. In March of that year the Brushes were shown through the house. The walls were smoked and streaked from the malfunctioning furnace and leaky roof.

FIFTEEN DISHPANS were placed in various positions in the attic in an attempt to catch the leaks. Much of the wallpaper was hanging in strips from the walls. The plaster was cracked. The kitchen was a nightmare. The second and third floors reeked of bat guano. The garden was a jungle. At least seventy five window lights were cracked. Carey could put his arm in up to the elbow between the wooden frames and the exterior stone walls of most of the windows.

THE BRUSHES BOUGHT GREYSTONE. It was the realization of a dream. For many years they had talked of buying and restoring an historic house. Now they had one.



IN MAY, their twenty-one year old son, Bart, moved in and camped out for three months while doing all the dirty work involved in cleaning out the accumulation of a decade of neglect.

IN AUGUST, Margaret and Carey moved in. They had no kitchen, but they did have an ambitious five year plan. Rising costs and inflation have extended that plan another five years.

THEY PLANNED TO DO all the preparation work before the professionals came on the job to upgrade the plumbing, the heating and electrical systems. Chimneys had to be replaced. The garden was to be weeded, the shrubs cut back a third and a fence built in the 1930's to be scraped and sanded. The entranceway



The original section of Greystone is a forty-square-foot structure built of grey limestone. Dormers, porches and a wooden kitchen wing were added in the 1890's.



The main entrance is the only touch of richness on the classically simple facade. The paint was burned off the entranceway and it was painted white with a black trim.

was to be restored, too. But that first year the major work was centered on Greystone's interior.

SO THE BRUSHES scrubbed down everything, steamed off the old wallpaper and burned off all the paint. They learned by doing. The living room had been painted a light grey. Not very pretty, so Carey carefully painted over it. By morning his handiwork was peeling off. The light grey color wasn't paint, it was grease.

OF NECESSITY the second year was devoted to work that required less expenditure of money--garden shrubs were cut back and the lawn reseeded. Pointing was begun on the exterior stone walls.

MORE WORK WAS DONE UPSTAIRS during the third year. New fixtures were installed in the bathroom. The master bedroom was completely renovated and restored--ceiling, walls, floors and fireplace. Outside, fences were restored and new gates put up. All exterior blinds were removed until they could be stripped and repainted.



The main entranceway, circa 1867.


THE THIRD YEAR saw the wooden trim of the stone part of the house painted and some storm windows installed.

THE FOURTH YEAR was the year of the bats. 150 gallons of bat guano had been removed from the attics a few years before, but the smell remained--overpoweringly so in one of the bedrooms. The chimney which had been so hospitable to the bats had to be scraped, sanded and remortared, the room totally renovated.

RESTORING THE EXTERIOR OF Greystone is a long term ambitious project--one that the Brushes feel will give them great satisfaction. The fifth year was Operation Dormer. Leaky dormers were removed and the original Federal style hipped roofline was restored. More work was done that fifth year to restore the exterior appearance of Greystone. Porches built in 1890 were removed, grey steel clapboard siding was applied to all exterior walls of the kitchen wing and the 1890 windows were replaced with the six over six windows in the same style as those in the stone part of the house.

SINCE THEN THE BRUSHES have done some interior decoration, and work in the garden. Their son is building a windmill so they can look forward to having their own source of energy.

OVER THE YEARS while all this work was going on, Margaret set about researching the history of Greystone, both as an aid in restoration and as a labor of love. As she says:

"FOR NEARLY A CENTURY AND A HALF Greystone has endured. For most of those years, it has been well preserved, but twice neglect has endangered its existence. Now, once again, it is beginning to exhibit a vibrant and unified appearance." 

FOR REMOVING the loose stucco, we used a claw hammer and a small chisel. Sheets of plastic were used as dropcloths around the bottom of the house; this made for easier clean-up. To remove the stucco, we chiseled a clean line around the damaged area. Then with the hammer claw—or hammer and chisel—we pulled the loose stucco off.

THE LATH USED on our house consists of wide planks with keys or grooves cut into them. All of the old material had to be removed—especially from the grooves in the lath so that the new material would have a firm anchor.

FITTING THE CHISEL under the loose stucco, we could slide it along the groove and remove the surface material plus the stucco keys in the grooves fairly easily. At this point we should recommend that anyone doing this work should be wearing a good pair of safety goggles, heavy work gloves, and a hat with a brim.

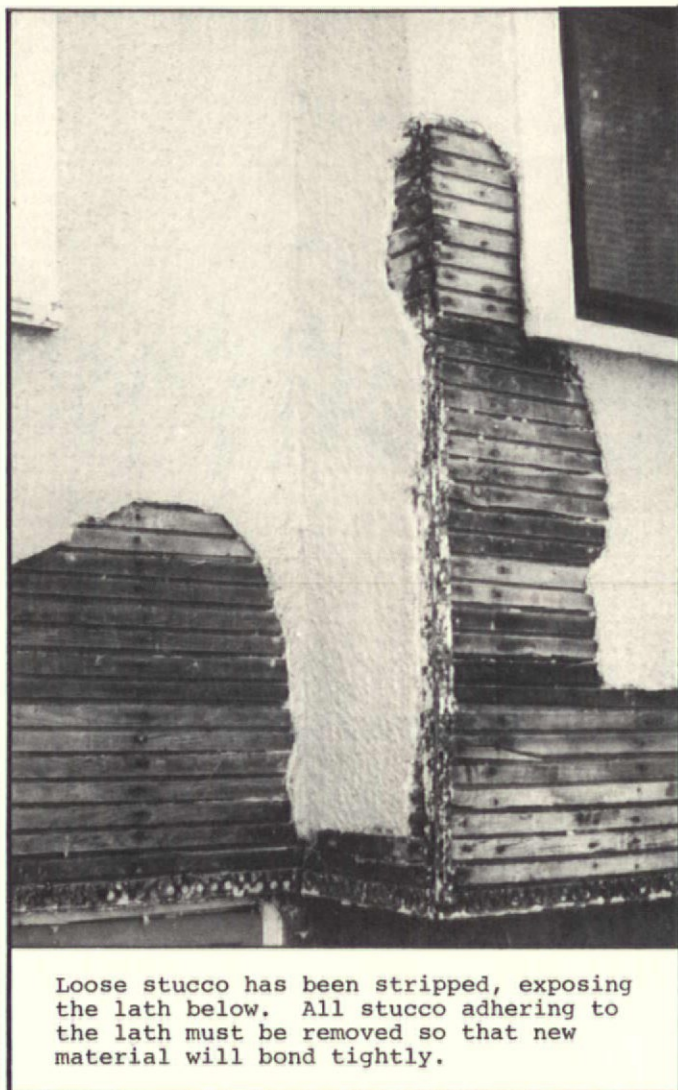
DURING THE REMOVAL PROCESS, don't get carried away and take off too much stucco at a time. If a heavy rain should come along, you can get a lot of water damage inside your house. Generally, we removed only what we knew we could replace that day or the next.

The Repair Sequence

THIS WAS THE SEQUENCE we normally followed in the stucco repair process:

- Loose stucco removed.
- Lath swept clean of all loose material.
- Any small areas of lath that were damaged were repaired by nailing wire lath in place.
- Any rusted corner beads were replaced with new corner beads.
- Wood lath was dampened by spraying lightly with a garden hose set for fine spray.
- Apply first coat of stucco (scratch coat)
- Cure first coat for several days, sprinkling it with water from time to time if direct sun or dry weather causes stucco to dry too rapidly.
- Apply top coat.
- Wait 1-3 hours, then wire brush top coat, using mild pressure. This exposed the pea gravel that gave the stucco texture.

OUR FIRST ATTEMPT at stucco application was rather comical. An apprehensive friend watched while we awkwardly tried to pretend we were masons. Most of the stucco mortar was splattering onto the ground. Our friend mercifully left. We soon realized that we were missing something other than experience: We needed a board to hold the stucco mortar close to the wall while we pushed it into place with our trowels. Masons call this mortar board a "hawk."



Loose stucco has been stripped, exposing the lath below. All stucco adhering to the lath must be removed so that new material will bond tightly.

WE CONSTRUCTED our own hawks out of some shelving pine and some thick dowel rod. Armed with these new tools, we soon had our first area covered. We noticed that a steady pressure is needed for easy application. A gentle but firm pressure with the trowel plus a smearing motion (like icing a cake) gave best results. This also produced ridges in the scratch coat that help the top coat to adhere tightly. In addition, the scratch coat should be scratched with a piece of wire lath or the tip of your trowel to create cross-hatch markings on the surface to create bonding places for the top coat.



Matching Stucco Texture

MATCHING THE TEXTURE of the existing stucco required much trial-and-error. We mixed test batches of the top coat stucco mixture, varying the amount of pea gravel. The mixture we finally used contained the following:



Don Minnery is applying the finish coat over the scratch coat. Dark section at bottom is the finish coat that has already been wire-brushed for texture. Light area to the right is the original painted stucco.

- 1 part lime
- 1 part portland cement
- 4 parts sand
- 1 part pea gravel

THIS MIXTURE, plus the wire brushing technique mentioned earlier, gave a satisfactory match between new and old work.

THE ONLY PROBLEMS with our work that we noticed was that a few hairline cracks showed up in a couple of places...and sometimes the new patch shrank a bit from the old stucco. We attributed this to too much water in a few of the batches of mortar, and an excessively fast rate of curing caused by some hot dry weather. To fix the hairline cracks, we filled them with architectural grade caulk before painting.


THE ONLY OTHER PROBLEM we had was in developing uniform pressure with the wire brush when we were brushing the top coat. On a few occasions, we scrubbed too hard with the wire brush near the edges of the patches, which meant that the texture didn't match as closely as we would have wished.

WE APPLIED SEARS Masonry Primer to all the patched areas, following directions on the can as to proper curing time to allow for the stucco. We followed with a coat of regular masonry paint over both the old and new work.

Costs and Cats

OUR PROJECT, though ultimately successful, was at times quite scary. Seeing the front of the house stripped to its bones was frightening. Neighbors kept commenting on our courage. One other problem that we encountered, which hasn't been mentioned earlier, was keeping our cat—and all the neighbors' cats—out of the sand pile!

THE BIGGEST BONUS for us was the economy of the entire project. We ultimately purchased 2½ tons of sand, 1 ton of gravel, 250 lb. of cement and 250 lb. of lime. The entire cost for this material—plus the tools we mentioned—was about \$95.00.

ALTHOUGH IT WAS HARD WORK, we both agree that the project was more enjoyable than stripping the 8 fluted legs on our dining room table! 

More About Stucco

By The Old-House Journal Technical Staff

STUCCO HAS BEEN USED since Egyptian times as a coating for the inside and outside of buildings. So it can certainly be thought of as a "traditional" building material. Up until the late 19th century, it was most common to use stucco as a coating over brick and stone walls. With the advent of the Tudor revival and bungalow styles, stucco was applied over wood (and later, wire) lath.

BRICK OR STONE BUILDINGS of 18th or 19th century vintage sometimes had a stucco or "parging" applied as a waterproofing sealer. Often, this stucco was a simple lime and sand mortar—identical to the "soft" mortars used in the construction of masonry walls up to the mid-19th century. Sometimes animal hair was added to the stucco mixture for added mechanical strength.

HOMEOWNERS with an old stuccoed building who find that they have brick or stone underneath are often siezed with the urge to strip off the stucco "to expose the natural beauty" of the stone or brick. Such a stripping operation should be approached with GREAT CAUTION—and only after consulting with a masonry expert who is familiar with old buildings. The stucco was doubtless applied for very sound reasons, and stripping it off could cause serious water penetration problems inside the house. An added consideration is that it is almost impossible to remove stucco from masonry (especially brickwork) without some mechanical damage to the stone or brick and the mortar joints.

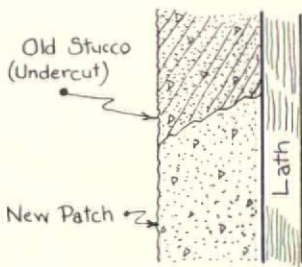
ALTHOUGH EACH STUCCO REPAIR problem has to be analyzed in terms of its own peculiarities, there are a few general principles to be observed in every case:

1. Priority should be given to preserving as much of the original fabric as possible. Many stuccos will last 100 years or more. The problem that usually arises is that the stucco comes loose from its lath or substrate. Defective areas should be cut out and new patches put in place.

2. When patching stucco, the replacement material should match the original as closely as possible in composition of the mortar, texture

and physical appearance. For example, a hard portland cement mortar would be inappropriate for patching an old lime-sand stucco, since different rates of expansion and contraction are likely to cause the new work to pull away from the old.

3. When cutting out defective areas for patching, the old remaining stucco should be undercut to provide firm bonding for the patch. Feathered edges between new and old work should be avoided, as these are very prone to cracking.



Lime or Cement Stucco?

OBVIOUSLY, the biggest problem in setting out to patch stucco is determining the composition of the old work. Stucco that was applied after 1870 is more likely to be based on portland cement rather than lime—but date alone is far from an infallible guide. Here is one test for a "soft" lime stucco:

TAKE A SMALL SAMPLE and crush it into a fine powder. Then put the powder into a glass with hot water and stir vigorously. If the bulk of the stucco dissolves, leaving sand and other aggregate at the bottom of the glass, then you are dealing with a lime-sand stucco.

AN ALL-PURPOSE STUCCO for patching the traditional lime-sand stucco would be:

BASE COAT—Two coats doubled up to a thickness of 5/8 in.

5 parts hydrated lime
15 parts aggregate (match to original)
6 lb./cu. yd. hair (1/2"-2" length, free of dirt, grease and impurities)
2-3 parts (maximum) Type II portland cement for workability

FINISH COAT

1 part hydrated lime
3 parts aggregate

THE USE OF ANIMAL HAIR to strengthen stucco was common (but far from universal) in 19th century work.

Repairing Cement Stucco

PRACTICE VARIES between applying stucco in two coats or three coats. In general, the rule has been to apply stucco in two coats unless a fancy special finish is called for. In that case, a third coat would be used.

AN EARLY 20th century masonry manual gives these instructions and formulas for stucco work:

FIRST COAT (Scratch Coat)—3 parts sand, 1 part cement, hydrated lime equal to 10% of the weight of the cement. Add small amount of cow

hair. Apply 3/8" to 1/2" thick and scratch it with trowel or piece of wire lath.

SECOND COAT (Brown Coat)—Apply following day. Dampen first coat, and apply brown coat to 3/8"-1/2" thickness, using same formula as above. Float surface with wooden float and lightly cross-hatch. Spray surface lightly to keep it from drying out for three days.

FINISH COAT (applied if special decorative finish is required)—Apply after brown coat has dried for a week. Use same mixture as first coat. Before applying the finish coat, the brown coat should be moistened with a garden hose so that it doesn't draw water out of the fresh stucco. Thickness of finish coat can vary, depending on texture sought, but it should always be at least 1/8 in. thick.

IF ONLY TWO COATS ARE BEING APPLIED, the second coat can be applied as soon as the first coat is stiff enough to accept the top coat; i.e., after some of the moisture in the scratch coat has evaporated but before it has set completely.


THE HIGH PORTLAND CEMENT CONTENT of this stucco makes it "hard." This would be appropriate for patching buildings where the stucco in place is based on portland cement.

Other Stucco Hints

BRICKS CAN ABSORB all of the water out of a stucco mixture, causing cracking and stucco failure. Thus, when applying stucco over brickwork, the bricks should be thoroughly wet down with a hose so that no water will be drawn out of the stucco. In addition, the mortar joints should be raked out to a 1/2" depth.

IN MIXING STUCCO, care should be taken not to add too much water; this will lead to cracking. In general, the dryer the mix the better. Adding too much cement or lime in an attempt to make the stucco "stronger" may also lead to cracking. Any mixture that has a richer cement content than the 1:3 cement/sand ratio called for in most formulas may cause trouble. Also, any mixture that is leaner than 1:4 should not be used.

PROBABLY THE MOST IMPORTANT factor for stucco success is avoiding too fast drying out of the coats. Thus the weather is critical. An overcast day is best for stuccoing. If the sun is out, try to work in the shade, following the sun around the house. Keeping the stucco moist by misting it with a hose will mitigate the impact of direct sun. Professionals sometimes hang canvas on their scaffolding to keep the direct sun off freshly applied stucco.

TRY TO HAVE enough help on hand so that you can complete the coating of each patch in a single session. You should avoid seams in the stucco coating caused by stopping and starting at different times. 

A Cake Decorator Method To Replace Plaster Mouldings

By Barbara Schiller

FOR SEVEN YEARS the brick Queen Anne house stood vacant--prey to squatters, vandals, fire, wind and water. Victim of a family feud, the four-storey rooming house had become a dangerous eyesore on an attractive street in Brooklyn's Park Slope Historic District.

IN THE SPRING of 1976 the street association and five individual homeowners brought suit against the owner for depreciation of real estate values on the block. The judge adjourned the case until fall on condition that the street association be allowed to take measures necessary to preserve the building until a buyer was found. That summer when Janice and Greg Etchison offered to buy the house, the street association helped to promote the sale.

GREG AND JANICE were exactly the sort of owner-occupiers the street association wanted as neighbors. Greg designs theater sets and costumes and manages a summer theater. Janice is a high school chemistry teacher.

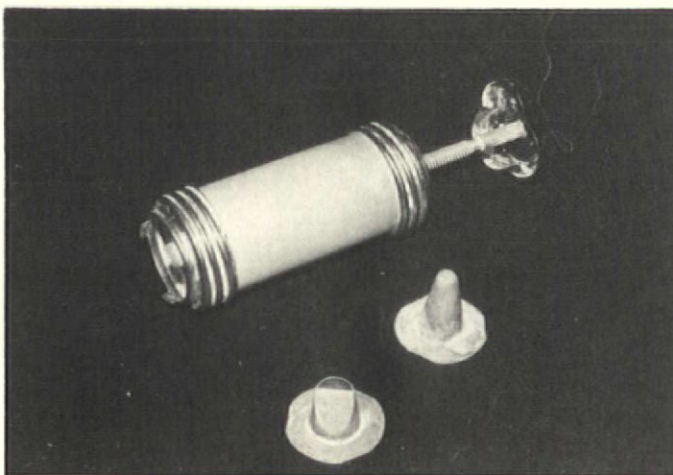
WHEN THE ETCHISONS moved into their house in January 1977, restoring its turn-of-the-century details had to be low on their list of priorities. There was not one surface in the entire house--ceilings, walls, floors, stairs--that did not have to be redone.

TO ACCOMMODATE 18 to 20 people, the well-proportioned rooms had been divided up with partitions. Each room had a sink and a stove. The old plumbing, the debris, the partitions, all had to be removed by Greg and Janice. The back yard had been a dump for the former occupants and for some neighboring renovators who had deposited bathtubs, sinks, rotted lumber and even an uprooted tree.

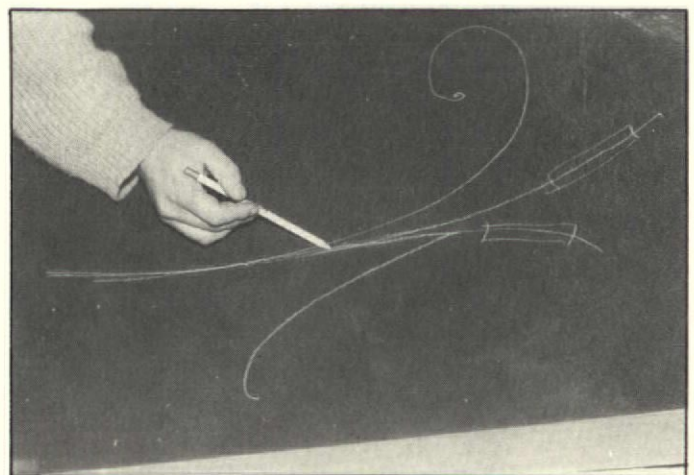
A Long, Cold Winter

PLUMBERS, ELECTRICIANS AND GLAZIERS were called in, but no one seemed to want to start work during that exceptionally cold winter. Greg, Janice and their baby were living on the first floor of what would eventually be their six-room duplex apartment, with only an old kerosene heater found in the cellar to keep them warm. Ironically, when they finally got someone to service the eight-year old furnace, it needed only a professional cleaning to be returned to working order.

THE ETCHISONS had to renovate from the top down since they needed the income that a rental unit would provide. So they camped out in makeshift quarters without a real kitchen or formal bathroom while Greg designed and constructed an attractive one and a half



The cake decorating kit is a standard item purchased at the local hardware store. Greg uses two different nozzles to create thick and thin lines.



For demonstration purposes, Greg has drawn the bulrush design with white chalk on black cardboard. On an actual surface use colored chalk or pastel crayon.



Before loading the compound in the cylinder mix it well to avoid lumps. When the cylinder is full thump it on a hard surface to get out all the air.

floor duplex. A studio apartment and terrace are still in the planning stage. Although his theater work equipped him with the know-how to do design, construction and decoration, Greg called in professionals for plumbing and electrical work.

ONCE THE DUPLEX WAS RENTED, the Etchisons concentrated on their own quarters. Water had

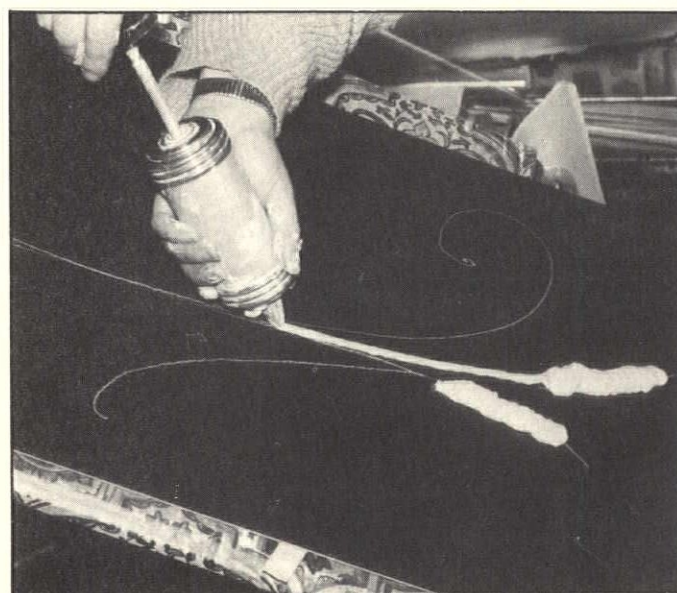
rotted beams and floors and destroyed plaster, so before they could think in terms of a kitchen and bathroom, heavy construction work had to be done. A flight of stairs was shored up, plaster was removed to the lath, floors were laid. For two summers work stopped when Greg and Janice went to Pennsylvania where he is executive producer for the Millbrook Playhouse.

The Decorative Elements

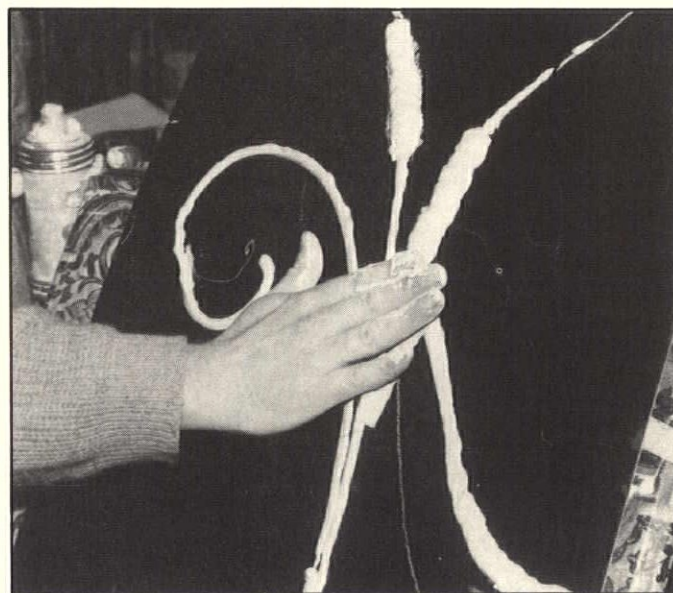
BY SEPTEMBER 1978 the Etchisons were far enough along in the renovation to start work on the decorative elements of their 1898 house. They set about stripping the massive oak front door, the panelling in the vestibule, the wood screen in the entrance hall. They needed a pair of doors for the living room--the original ones had been sawed in half. A neighbor told them about a 16-panel set that had belonged to Mark Twain's daughter and was now in a gatehouse in Tarrytown, New York. The Etchisons bought the doors which fit the style of their house as if made for it.

ANOTHER NEIGHBOR GAVE GREG the inspiration for an ingenious method of restoring plaster ornament--a project he had been giving considerable thought to.

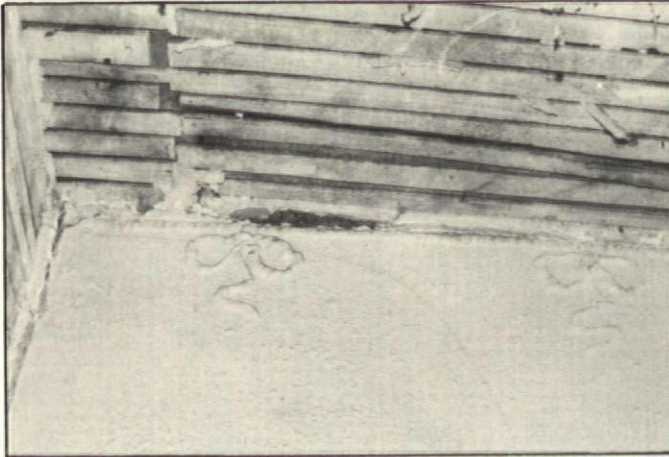
WHILE VISITING ACROSS the street, Greg examined the plaster floral motifs on the walls. "They looked like the decorations on a wedding cake. And that gave me an idea. Why not use a pastry tube to decorate the walls?"



After using the wide-mouthed nozzle for high relief, Greg switches to the smaller nozzle for the thin lines of the stems. Mistakes can be removed with a putty knife.

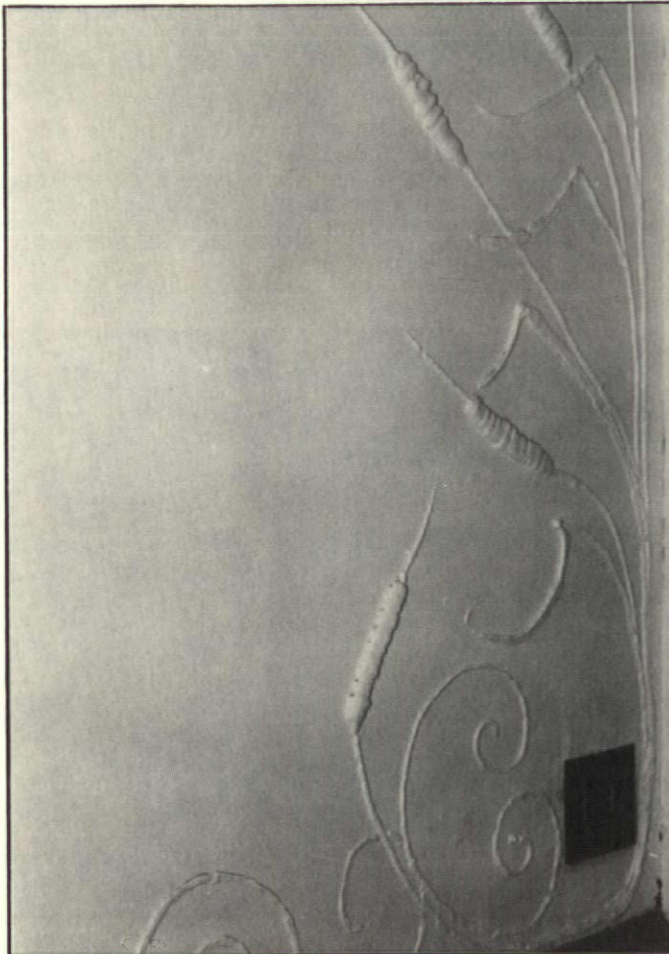


Pressing the motif gently with the fingertips helps it adhere to the surface. In doing the actual work, this should be done about four hours after making the motif.



Two plaster bow ribbons on the second floor wall were all that remained of the original decorations.

AFTER EXPERIMENTING with a cake decorating tube at a local hardware store, Greg came up with what he calls "a new and exciting use of joint compound for the amateur plasterer."



Restored bulrush motif on the vestibule wall--it also appears in the entrance hall.



Walls and ceilings taken down to lath are typical of the work that had to be done throughout the house. In the process this unusual brass gas jet was uncovered. It had been hidden with layers of paint and plaster.


(Photos by Alan Pearlman)

Using the Decorating Kit

TO MAKE AN EXACT REPLICA of a decorative motif, do a drawing, photo or rubbing of the original for reference. Then with a sponge roller and a slightly watered down joint compound, roll out a textured stucco surface to match the existing wall or to create a new surface. The textured stucco is important since it holds the plaster motifs to the wall.

WHEN THE SURFACE IS DRY, draw or trace the design with colored chalk or pastel crayon. For a ceiling molding or a repeat design, make a stencil and tape it in place. Then lightly spray it with floral spray, a water-based paint available from garden supply stores. Moisten the area to be worked on and keep it moist.

USING A CAKE DECORATING KIT filled with joint compound, begin tracing the lines of the motif, working from the top down. Squeeze it out slowly for high relief, faster for low relief. If something goes wrong, remove the mistake with a spatula or putty knife.

WHILE THE ORNAMENT is still moist, gently press it to insure proper adherence to the wall. Allow it to dry. During the process, cracks will appear. They may be pressed closed while still moist or filled in when dry with additional compound. 

Restorer's Notebook

Liquid Solder

MY 80-YEAR-OLD STAINED GLASS WINDOW was accidentally damaged leaving an 8-inch hole in the center and many small pieces broken. However, the original leading was intact. After matching the colors and cutting the pieces of glass using the tracing-paper method, I wanted to replace the pieces without removing the entire window from its frame. (This would have meant a major carpentry job.)

WE BEGAN TO SOLDER, using the conventional method of holding the solder-wire up to the edge of a piece of glass while heating it with a soldering iron. We realized that the solder wouldn't fall into the crevices of the leading already there. Instead it fell to the floor.

WE FOUND THE SOLUTION at the local hardware store: A tube of non-metallic liquid solder. The solder has the consistency of toothpaste and can be squeezed into the existing leading. We used a Q-tip to spread it. After the solder hardened we scraped the excess from the glass with a razor blade.

Valarie Stewart
Richmond Hill, N.Y.

More Ideas

On Removing Wallpaper

WE TRIED USING CHEMICALS and scrapers to remove painted wallpaper, but found that the quickest method was to use a rented wallpaper steamer. Propane-powered steamers are possibly faster, but electric ones work just as well.

FIRST WE "SCRATCHED" THE WALLPAPER with very coarse sandpaper. If you have to remove a number of layers, it's best to scratch the surface again between steamings.

ONE CAUTION: steam condenses in the pan and drips down the wall. Wear long sleeves and gloves to avoid being burned. Never work under the pan (as in ceiling stripping)-- use a ladder so you can work in front of you rather than over your head.

THESE STEAM MACHINES can be rented from paint stores and large hardware stores.

Tom and Rica Vogel
Michigan City, Ind.
-and-
Marlene Cullen
Petaluma, Cal.

MY WIFE AND I HAVE FOUND that a common 2-inch wood chisel is a handy tool for removing layers of painted wallpaper. It is heavy enough to cut through to the plaster, and easy to use in long broad strokes for quick removal. This way water is not necessary for loosening the paper. Afterwards paste residue and scraps should be wiped away with a damp sponge.

THIS METHOD WORKS for those of us who are restoring on a tight budget and cannot afford the cost of renting steamers for days at a time-- and we can work at our own pace.

BE CAREFUL not to gouge the plaster underneath -- keep the chisel sharp!

David McConkey
Terre Haute, Ind.

Sealing Fence Posts

IN THE ARTICLE "Building A Picket Fence" (April 1979), it was recommended that treated posts be set in concrete. There are also other less expensive ways to seal wood posts. And of course if you have a big country yard to fence, setting each post in concrete would be too time-consuming.

I COAT EACH POST with roof cement to above ground level and let it set. For square posts I even add roofing paper. Roof cement is what saves your house; it will do the same for your post. Be sure the bottom surface is coated too.

AFTER SETTING THE POST in the hole, fill the space gradually with dirt, always tamping the ground firmly. Fill to slightly above ground level. This careful tamping will get rid of all voids that could hold water.

PRESERVATIVES ALONE won't keep water out of wood indefinitely. That's why I like to use roofing cement and roofing paper to create a waterproof membrane. Also, when concrete is used, the wood can shrink from the concrete, creating a pocket for water to enter.

ANOTHER NOTE: Don't just use a spacer gauge for pickets and call them plumb. Posts and pickets must be at a true plumb--especially at corners and gates. Use a level to check for vertical at least every six pickets. And use heavy nails (#8d on one-inch stock), not box nails.

Albert Henry
Boone, N.C.

Got Any Tips?

Do you have any hints or short cuts that might help other old-house owners? We'll pay \$15 for any short how-to items that are used in this "Restorer's Notebook" column. Send your hints to: Notebook Editor, The Old-House Journal, 69A Seventh Avenue, Brooklyn, N.Y. 11217.

Products For The Old House

A Good Clamp

THE UNIVERSAL CLAMP Corporation manufactures a variety of clamps for repairing and restoring cabinetwork and fine woodwork. Their popular 805 Porta-Press jig is particularly good for the assembly of mitered frames and doors. It is a lightweight, self-contained jig that, when assembled, requires no tools to adjust from a 8 in. square to 36 in. x 48 in. frames. It can also be equipped with optional legs for complete support.

UNIVERSAL ALSO makes a non-twist C clamp for home and industry. Send a stamped, self-addressed legal size envelope for brochures and price list to: Universal Clamp Corp., Dept. OHJ, 6905 Cedros Ave., Van Nuys, CA 91405. Tel. (213) 780-1015.

18th Century Building Materials

A LARGE ASSORTMENT of 18th century building materials is inventoried by the Kensington Historical Company in New Hampshire. They regularly stock: Hand hewn beams, spruce, eastern white pine, white oak and chestnut as well as granite (step and sill) and red sandstone (step). Also antique millwork, doors, random width floorboards, chimney breasts, staircases and many other architectural elements from 18th century New England homes.

THEIR LINE OF SERVICES include: Dismantling homes for reconstruction, reproducing 18th century building materials and complete Colonial home designing, planning and building. For a free brochure, write or call: Kensington Historical Company, P. O. Box 87 (OHJ), East Kingston, New Hampshire 03827. (603) 778-0686.

Helpful Publications

A Stanford White House?

By Christopher Gray
Director, Office for
Metropolitan History, N.Y.C.

IF YOU HAVE HERETOFORE silently suffered through your neighbor's claims to a Stanford White designed house, there is a book for you. Leland Roth, the ranking McKim, Mead & White scholar, went through the firm's bill books to compile The Architecture of McKim, Mead & White, 1870-1920: A Building List (1978, Garland Publishing, 545 Madison Avenue, New York, New York; \$45.00.)

VERY LITTLE (only projects under \$1,000) slips through the net, and 945 buildings and 50-odd bookcovers, yachting cups, frames and other miscellany make up what is the most complete catalog of any large architectural firm ever published (XLVIII + 213 pp. + about 240 pages of plates.)

HALF OF THE BOOK is a section of photographs: A tenement house (!), the firm's only set of rowhouses (brownstoners take

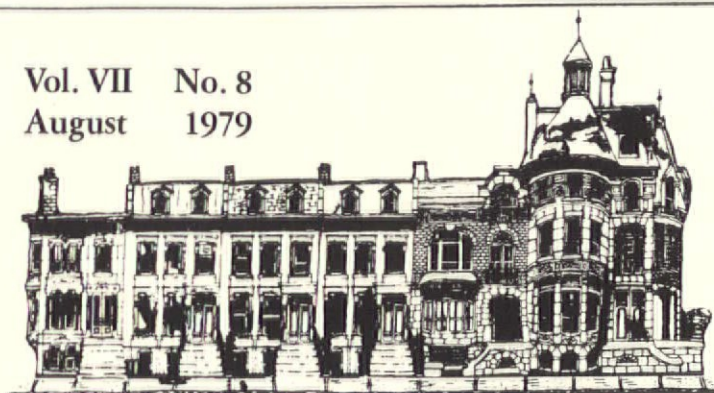
note) and two identical office buildings in Omaha and Kansas City built for an insurance company are the lesser known works sprinkled in among the masterpieces.

MAKE NO MISTAKE: This is a reference work. Roth provides a spellbinding account of the workings of the firm's personalities and operations, but the meat is in the illustrated list. McKim, Mead & White: A Building List is an exceptional piece of research, providing extraordinary documentation of the work of the firm which is both famous and yet fundamentally unfamiliar to us all.



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Restoration And Maintenance Techniques For The Antique House

Restoring A Colonial Roof

By Jane Freeman, Brimfield, Mass.

IN THE PROCESS OF RESTORING our Colonial house we made lots of friends and learned many interesting bits of information-- we also made our share of mistakes! A few years ago when I heard about "restoration" I didn't know what it entailed. But now after working on our own house, I know exactly what it means.

RESTORING A HOUSE takes a tremendous amount of patience. You must truly love what you're doing, otherwise the whole project could turn into a nightmare. The restoration of a house is also a learning experience for everyone involved; it soon becomes a living history lesson on the building techniques of our forefathers.

THE MAIN STRUCTURE of our house was probably built between 1750-1800. Our mason agreed with our dating because the fireplaces showed signs of Early American construction: There were very thin mortar joints in the fireplaces, and narrow handmade bricks were used in building the chimney and three fireplaces.



A Rotten Surprise

THE ROOF is certainly one of the focal points of a house, and it also provides protection for the entire structure. If you can keep the roof in good repair, the rest of the underlying timbers should remain solid. Because of its important function, and because we felt that it should add to the period flavor of the house, we carefully considered the treatment of the roof.

THE REROOFING of our Colonial house turned out to be more of a project than we imagined. We had previously inspected the hand-hewn rafters in the attic and they appeared solid. The roof itself seemed to be in good condition (no leaks) though it was covered with seven layers of roofing paper.

WE HAD PLANNED TO REMOVE the paper, cover the roof with 1/2 in. plywood, and then shingle it. But when we removed the paper, the condition of the roof was much worse than we'd thought. Tearing away the last paper lay-

(Continued on page 92)

Mansard Elegance Brought Back In St. Louis

By Michael G. Reynierse

ON THE 27TH OF MAY, 1896 a disastrous tornado smashed through St. Louis, Missouri, causing terrible damage and loss of life. Among the hardest hit neighborhoods was the stately Lafayette Square district. The first public park west of the Mississippi River, the 30-acre Lafayette Park had for several decades attracted many of St. Louis' prominent citizens to its surrounding residential boulevards and private places. In its heyday wealthy St. Louis manufacturers and businessmen, as well as congressmen, senators, and cabinet officers called Lafayette Square home.

EVEN THOUGH CHANGING ARCHITECTURAL tastes and new, grander residential developments in the suburbs had been luring the fashion-conscious from the area for several years, the awesome destruction left in the great cyclone's wake precipitated an accelerated decline in the neighborhood's fortunes which was only halted in the late 1960's.

WHILE ALMOST ALL of the damaged and destroyed homes were rebuilt, a number of buildings were reconstructed in a somewhat abbreviated form, with storm-damaged upper stories omitted. Many residents, discouraged by the devastation of trees and plantings, never returned, relegating their truncated townhouses to rooming-house status. Thus the too-familiar pattern of urban decay became established in Lafayette Square.

IN THE LATTER HALF of the 1960's, after suffering years of abuse and neglect, Lafayette Square received its first wave of restorationists. Like old-house lovers elsewhere, these urban pioneers saw not squalid, derelict rooming houses, but grand, ornate mansions whose solid construction and elaborate detailing, long absent from new housing, were available at bargain prices.

TOM AND LYNNE KEAY POSSESSED this special kind of perception, and like most of Lafayette Square's current residents, they were hooked on the neighborhood from their first visit. In the spring of 1970 they bought a two-storey, eight-room townhouse which had been originally built in 1877 for the celebrated steamboat pilot, Horace Bixby. It now housed eight tenants in five "apartments," each with



This photo was taken after the 1896 tornado in St. Louis, Missouri. The house at the extreme right is the Keay home with its third storey destroyed. (Photo from The Missouri Historical Society.)

its own sink, stove, and refrigerator. In spite of the usual rooming house desecrations the building had suffered, many vestiges of its elegant origins remained. Though damaged, much of the original ornamental plaster mouldings were still in place, and five marble mantelpieces survived.

ORIGINALLY the two parlors had had matching white marble mantels with cameo cartouches. The Keays nearly cried when the former owner told them that the one in the second parlor had been removed only recently. "The

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The Keay home is on the left, shown prior to reconstruction of the third floor.



This photo shows the Keay home after completion of the third storey addition.

tenants who rented this room had another baby," Tom recalled, "and to make extra room, they smashed the fireplace with a sledge hammer and threw the pieces out of the window. The floor space gained was only about 5 ft. x 10 in. It just made us sick."

FORTUNATELY A SUITABLE, though unmatching, mantel was found at a nearby wrecking site. Other mantelpieces throughout the house had to be stripped of numerous coats of drab rooming house paint.

THE KEAYS, LIKE MANY OTHER restorationists, proceeded on a room-by-room basis, with rate of progress dictated by their time, energy, and resources. The birth of their son, Nathan, in 1973 altered their priorities somewhat. "During the rooming house years," Lynne explained, "our stair railing had been replaced by a fire wall which divided the hall and provided separate entrances for the tenants of each floor.

A Necessary Stair Rail

WE DISMANTLED THE WALL soon after moving in, but didn't get around to replacing the railing until Nathan started walking. Our relatives and friends were aghast at the thought of him climbing up and down all those stairs with no banister. And frankly, we were, too." Tom was able to salvage the now hand-somely installed walnut handrail and balusters from a house that had burned, and a cousin who is a professional carpenter provided the expertise required to put it all together.

BY THE FALL of 1975 the Keays had the first floor nearly completed, with only cosmetic repairs undone on the second floor. Their home, after five years of hard work, was one of the showplaces of the Lafayette Square Historic District. But one thing plagued the Keays, and would not allow them to be content with their nearly finished restoration. They wanted a third floor. Theirs had been one of the houses rebuilt after the 1896 tornado without replacing its ruined third storey.

"AFTER MUCH AGONIZING," Tom explained, "we decided it's now or never. It wasn't a question of needing the space--we didn't, obviously. It was purely a matter of aesthetics. Our friends, mostly old-house people, thought it was great. Our relatives thought we were crazy."

Help With The Design

HAVING MADE UP THEIR MINDS to replace their third floor after a nearly 80-year absence, the Keays sought the help of the Renaissance Design Group, a partnership of young architects and carpenters who lived in the neighborhood, which specialized in restoration work. Together the Keays and RDG decided to build a mansard shell, rather than following the original design which extended the structure's masonry walls upward another storey.

THE NEW THIRD STOREY, like the original, would cover only the front half of the house. Aside from being much cheaper to build, the mansard style was judged to be more in harmony with neighboring houses. The mansard treatment also stood a better chance for approval by the City Landmarks Commission, whose O.K. is required before building permits can be issued for any construction in the city's historic districts.

"THE HEARINGS, PAPERWORK, and red tape weren't as bad as we expected," Lynne said. "But we were almost turned down because of the distance between our house and the neighbor's. We were within an inch of the minimum space allowed for new construction by the building code."

PERMIT IN HAND AT LAST, work began in early November, 1975. Though not the best time of the year to tear the roof off, the Keays were optimistic. Optimism turned to excitement during the first day of work, when under the roof, workers discovered the original third storey flooring intact. "The thresholds for the doors were there, the marble hearthstones were there, even the rush carpeting was still there," Lynne said, her excitement still evident.



The entry hall of the Keays' home recalls the elegance of Lafayette Park as it was in its heyday.



A gracious and lovely front parlor has been re-created from boarding house ruin. Original mantel has cameo cartouche.

Sun Deck At Rear


WHILE APPROPRIATE period detailing was required for the front and side elevations, a sun deck was planned for the rear portion of the addition. The design for the deck necessitated removal of a portion of the original flooring so that additional structural members could be incorporated.

AFTER THE MANSARD SHELL was completed, interior work proceeded without serious problems. The Keays believe that the construction of their new third floor was in many ways easier than much of the restoration work in their original rooms.

"NOT ONLY WAS THERE LESS TRASH to get rid of, it was cleaner trash, too. It wasn't necessary to undo or tear out anything before we could add something new. And since we started from scratch, we didn't have to worry about accidentally damaging something we wanted to save, while getting rid of what we didn't want."

Mansard Blends In

SO WELL DOES THE NEW slate-clad mansard blend with its neighbors, that newcomers to the neighborhood are frequently shocked to learn of its recent origins. Visitors are equally impressed by the attractive contemporary interior and the view of the St. Louis skyline from the rear deck.

ONE OF THE MOST daring and ambitious restoration projects yet undertaken in the Lafayette Square Historic District, the Keays' now-complete townhouse has attracted considerable acclaim. In addition to receiving the 1976 St. Louis Beautification Award for that year's most noteworthy residential renovation, the bank that financed the third floor construction included a photograph of the Keay home in their 1976 annual report to illustrate its interest in urban revitalization. But perhaps the best compliment is imitation. At least one other family in the area plans to rebuild their home's long-missing third storey in the near future. 

Coping With A Small Bathroom

By Dan Diehl, Atwater, Ohio

PRIOR TO THE MID-1890s-- and as late as 1920 in rural areas-- most houses were originally constructed without the benefit of indoor plumbing. When toilet facilities were finally installed they were usually stuck in any cranny available: A closet, summer kitchen, side porch, or as in the case of my 1894 farmhouse in Ohio, in an area walled off from an existing room.

I WAS FACED with turning this tiny area into a respectable period bathroom. The room is 4-1/2 feet wide and just over ten feet long. The bath had been installed in 1941 so the fixtures were of relatively modern design. Since I definitely wanted to install a shower, I decided to leave the modern tub in place and concentrate on the remainder of the room to provide the proper Victorian appearance.

THE TOILET was wedged between the hand-basin and a boxed-in soil pipe that led to the second-storey bath (which was a former linen closet.) To avoid major plumbing work, I put the new toilet in the same place. Only the wall--

4-1/2 feet long, opposite the tub, remained for decorative treatment, and I opted to fill the entire wall with a built-in vanity.

Constructing The Base Cabinet

TO CONSTRUCT the vanity's lower cabinet, I used the room's 8-inch high mop-board (baseboard) for the sides and back of the framework, and fitted an 8-inch board across the front to complete the base. On top of this 8-inch high box-frame I nailed a piece of 5/8-inch plywood, overhanging the front edge by 2-1/2 inches to form a kick space. This provided the floor of the cabinet. To frame in the sides I simply nailed 1"x4" pine boards vertically and horizontally to the walls in the cabinet space.

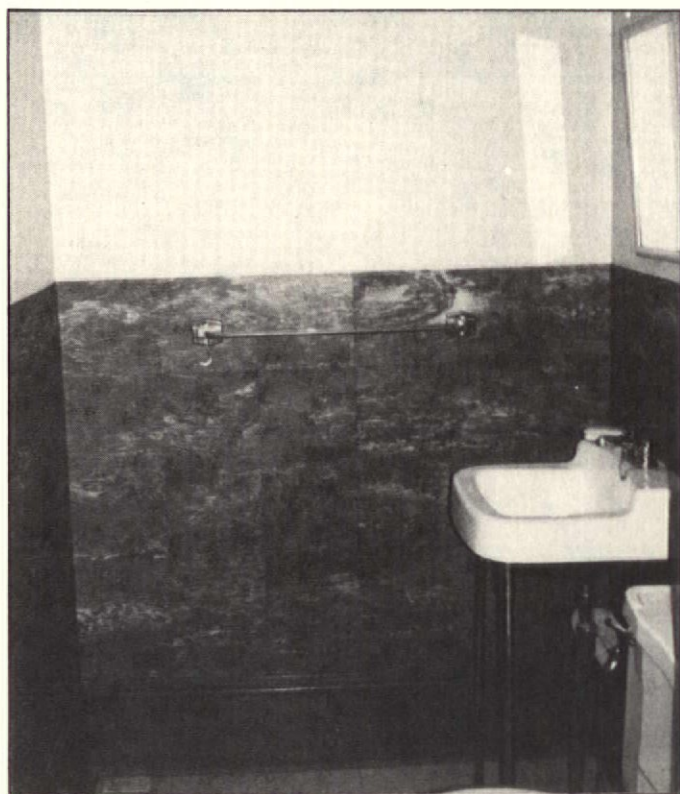
NEXT I FASHIONED the panel doors and frames, a procedure perhaps too tricky for first-timers. The actual design of the cabinet should be fitted to individual needs. I constructed double doors to the left under the sink, and two drawers to the right (installed while the toilet was out.)

Wainscot And Vanity

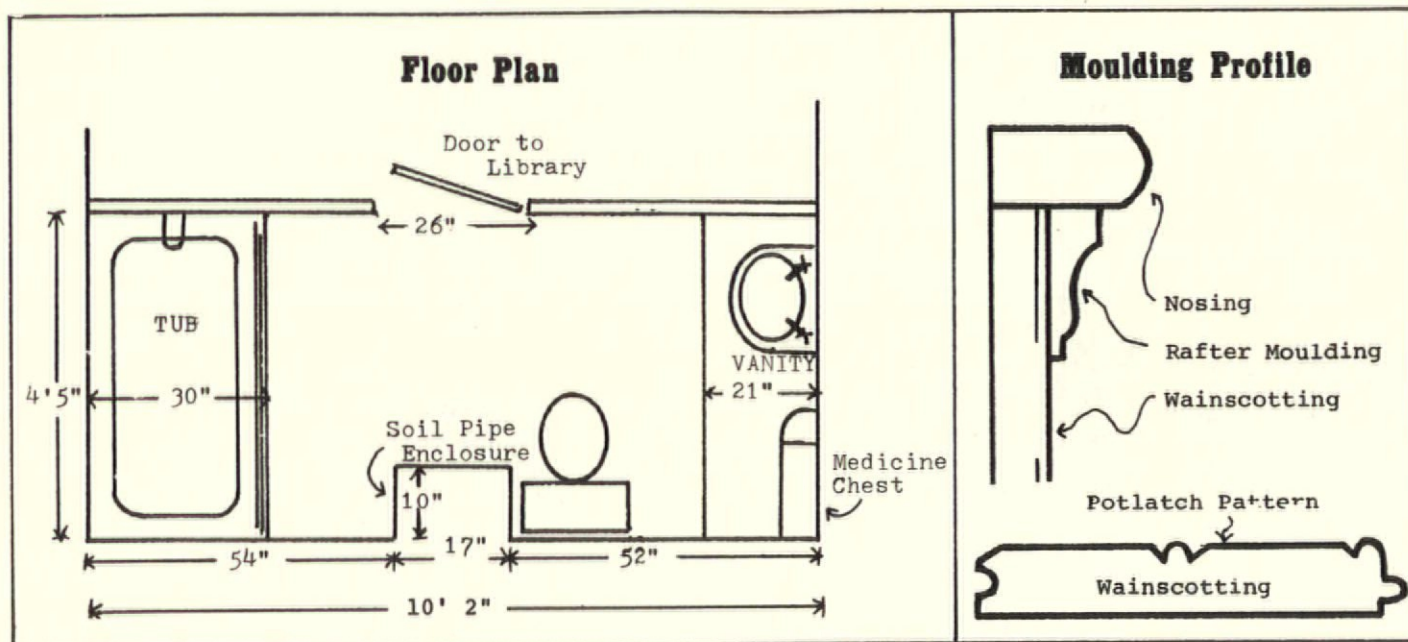
AFTER THE BASE CABINET was roughed-in, wainscoting was fitted on all walls except in the tub stall. These walls I fitted with "Marlite" plastic-laminate waterproof panels. As wainscot I used cedar tongue-and-groove porch ceiling lumber in the style which is sometimes referred to as the pot-latch pattern (see diagram.) I removed the mop-board's decorative cap-strip before installing the cedar boards, so that I could seat the wainscoting down flush on the mop-board.

BEGINNING IN a relatively plumb corner, I fastened the boards to the walls with B.F. Goodrich PL-200 adhesive (panelling cement), and where possible nailed them to studs with 8-D finishing nails. As the boards are tongue-and-grooved, they hold their position while the glue is drying. For the part of the wainscoting that went around the sides and back of the vanity I used strips of tongue-and-groove board 5-feet long, as opposed to the 4-foot lengths on the other walls.

ALL ALONG THE TOP of the wainscoting, including the high vanity back, I installed 1-1/2-inch rafter moulding (cut down from 2-inch) and topped this with 2-inch wide nosing. (See sketches) This nosing may have to be custom-made, although it can occasionally be found at a well-stocked lumber yard. (Ed. note: Similar wainscot cap mouldings are available as




Circa 1941 bathroom before Dan Diehl began working on it.

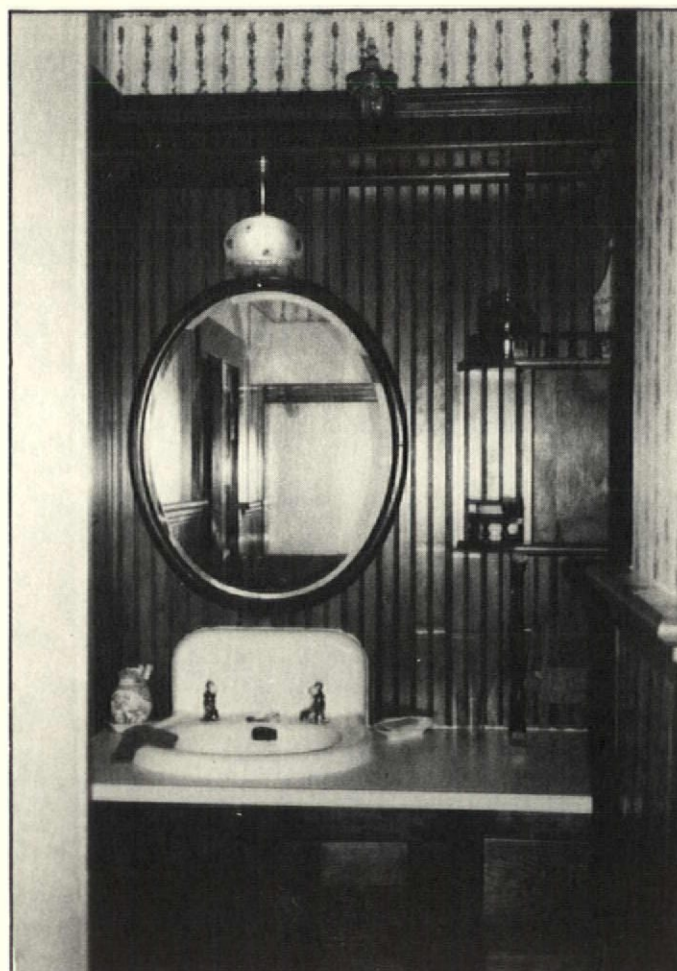


stock material; such as product numbers WM296 and WM290 from Western Wood Mouldings and Millwork Producers Assn. product directory.)

BECAUSE OF THE PROXIMITY of the toilet to the vanity I had positioned the hand-basin (a salvage item from a demolition site) off-center. The open area to the right of the sink became an excellent place to build a small medicine chest. The chest is 6-inches deep and 12 inches wide, with the top and bottom boards made from 1"x8" pine. I extended them 6 inches beyond the chest to form extra shelf space. Two spindles were used to connect the chest to the vanity counter and overhead shelf. (I found these spindles in my attic; they match the hall staircase spindles.) The overhead shelf is just a pine 1"x12" cut to length and supported by quarter-round. The corner brackets were attached to the shelf before it was installed and then they were toe-nailed to the wainscoting. Now we were ready to apply finish.

BEFORE INSTALLING THE WAINSCOTTING, I had given it all a coat of thinned-down cedar color stain. I used this to darken the wood to match the natural aging in the existing pine woodwork in the rest of the house. (Try out your finishing process on scrap lumber first!)

SINCE THE PINE in the house was originally colored with orange shellac, I decided to follow suit in the bathroom. I applied the thinned down stain to the rest of the cabinetwork. Next came two coats of 3-pound orange shellac, then finally a coat of urethane. I find that mixing gloss-finish and satin-finish urethane in equal parts produces a low luster which approximates the look of aged varnish. This procedure was used on the wainscoting and the cabinetwork, with only a coat of urethane applied to the mop-board. 




In this view, the wainscoting and two-part cap moulding can be seen at right.

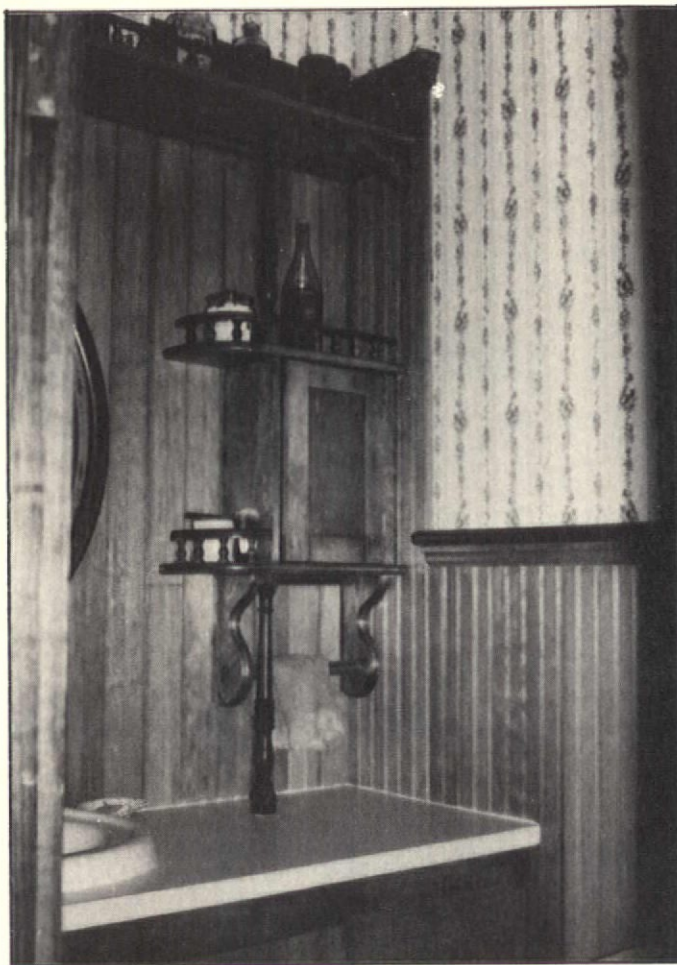
EVEN IF COLOR-MATCHING is unnecessary, I would recommend a coat of white shellac as a sealant, and urethane as a final sealer against water.

A Victorian Effect

TO GIVE THE CABINETWORK a sufficiently fancy look I added small gallery work around the shelves. The spindles were ordered from Minnesota Woodworkers Supply (OHJ Catalog.) I made the small top rail from a cardboard template, cutting it out on a jigsaw and using a router on the edges. (Traditionally the railing would have been steam-bent.) The spindles were finished before final assembly.

SINCE THE COST of reproduction spigots is outrageously high, I bought a pair of conventional chrome-plated spigots and took them to a plating shop, where the plating was removed and a high-quality brass plating put on. I fitted these with a pair of porcelain teardrop handles from an antique shop. The large oval mirror was rescued from an old dresser, refinished, and attached to the wall with brass screws.

I RELATED THE FINAL DECORATION to the scarlet carpet in the adjoining library, and to the two light fixtures with their painted roses (a junk shop find.) I carried the carpeting on into the bathroom. Wallpaper with red rose clusters on a cream background complements fixtures and carpet. The ceiling is painted cream. Finally, I refinished and installed a salvaged wooden toilet seat. 

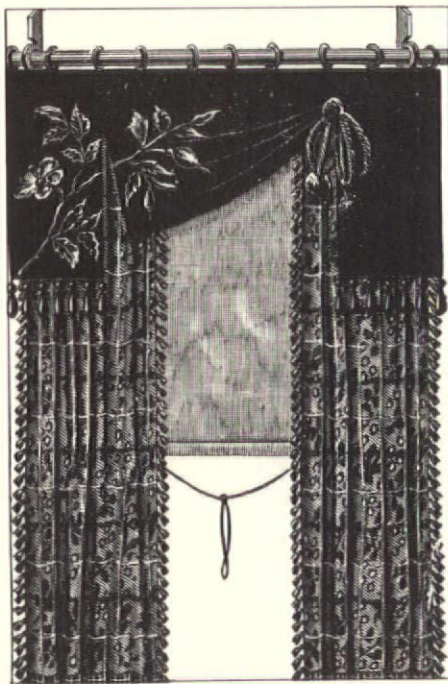


Window Shades Reduce Heat Loss

OLD FASHIONED WINDOW SHADES can be an effective aid in reducing heat loss during the cold months. Shades can prevent the escape of as much as 31 percent of the heat usually lost through windows. Shades are more than four times more effective than venetian blinds and lined draperies which reduce heat loss by 6 to 7 percent.

ENERGY RESEARCHERS know that three to four times more energy is lost by radiation through the glass than by leaks through cracks around the sash. In winter, heat from the interior is passed to the outdoors through the glass; in summer the sun's heat enters the house.


IN WINTER, shades should be drawn to the sill in early



morning, evening and night when the temperatures are the lowest and raised during the sunny part of the day.

IN THE HOT WEATHER, reverse the procedure to keep the room cool, because shades are also helpful in blocking out the sun's radiant heat.

PARTICULARLY GOOD for warm weather are the type of shades sold as "room-darkeners." They are made of heavier plastic or other material and block sunlight from entering the room.

FOR MAXIMUM EFFICIENCY, shades should be mounted as close as possible to the frame of the window, with only a quarter-inch clearance left along the shade's vertical sides. 

ers, we found that the roof boards were rotten and had to be replaced. Then, removing the decayed boards, we uncovered several rotted rafters as well.

WE WERE TRULY SURPRISED to find this condition since the rafters had appeared quite firm when inspected from inside the attic; it was the flat surface of the rafters, right underneath the roof boards, which had started to rot. Although it was not yet seriously decayed, as long as the roof was open we decided to make all needed repairs.

WE SET OUT TO FIND roof boards and replacement rafters. We could have gone to a lumberyard, but we'd heard that lumber was less expensive at a saw mill. We purchased the rafters and the boards at one of the local mills for a fraction of the regular cost-- if you live near an area where there are saw mills, I urge you to make use of them. Buying most of our lumber at the mill kept the cost of our restoration minimal. And when you inevitably need odd-sized lumber, it can be custom-cut at your local mill.

OUR NEXT STEP was to reinforce the roof rafters. The original rafters were hand hewn from hemlock timbers, so we decided they should be saved for their aesthetic and historical value. These original rafters were reinforced, but not replaced, with new timbers running parallel to them. The building's antique framework thus stayed intact.



This is a snapshot of the Freeman house before roof restoration began.



During the roof restoration the original hand-hewn rafters were reinforced.

The Chimney Rebuilt

WE PLANNED TO ENLARGE the size of the chimney as it came through the roof. Researching our house's history, we had discovered that it was originally a one-storey building that was later expanded to two storeys. The chimney was never enlarged, but was extended from the original one. As you can see in the first photo, the chimney was very narrow and seemed incongruous.

THE OLD CHIMNEY WAS DISMANTLED down to three feet above the attic floor. At this point we could look right down the chimney flue, which had accumulated a lot of soot. We cleaned the chimney, and then returned to the brick-cleaning and rebuilding.

OUR MASON STRONGLY ADVISED that for safety the chimney should be repaired. The fireplaces and chimney were originally put together using a clay mixture instead of the mortar we know today. We were told that some of this clay should be replaced with new mortar. (We used "Ironclad" mortar cement, which contains lamp-black and helps in matching the mortar color.) Bricks taken from the upper portion of the chimney had to be cleaned of the remaining clay-mortar. We simply used a hatchet to scrape away the clay, which had become very dry and crumbly with age.

THE NEW CHIMNEY WAS REBUILT from the attic floor up, gradually widening as it got nearer the ridge-pole, as my drawing shows. We reused the hand-made bricks from the original chimney, which were narrow and plain-faced. Additional bricks were uncovered behind the barn; it might have been the site of a smoke-house which had been dismantled. Most of the bricks used in building the larger chimney were discovered on the premises, or had been saved from the original one. The bricks that we did have to buy through the mason were salvaged from the dismantling of an old building nearby. NO new bricks were used in our masonry projects, since we felt that modern bricks would detract from the antique appearance of the house.

Reroofing With Wood Shingles

IN THE BEGINNING of our restoration project, no one gave much thought to what type of roof covering we would use. I think we all assumed we'd use asphalt shingles, which are extensively employed in the building profession. It was not until some time later, while discussing our particular needs with a builder, that we considered using wood shingles.

ALTHOUGH WOOD SHINGLES are becoming popular again, they're still hard to find at lumberyards. We were advised to look for white cedar shingles, recommended for their durability. We had heard about a local man who made his own pine shingles. We thought we might compromise and use his hand-made pine ones, until we found his price was twice that of the few lumberyards that did carry pine shingles. Next we turned to a discount yard in Connecticut. (See Box) Much to our delight this yard carried white cedar shingles at the most reasonable price we'd found.

HERE WE REALLY came to appreciate the family truck. In order to get the material at the low price we had to haul it ourselves. We've found that a pick-up truck becomes a necessity during the course of a large restoration or any rehabilitation project, whether to carry debris to the dump, or to pick up building supplies. Owning our own truck was another major money-saver.

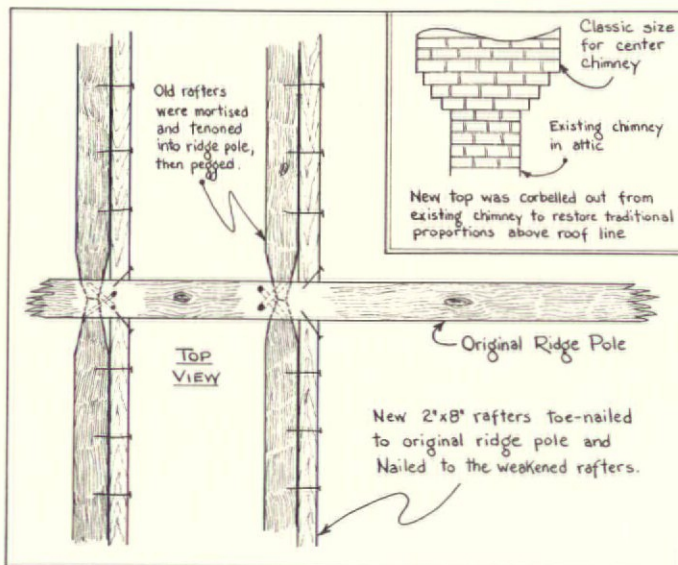
THE INITIAL EXPENSE and labor involved in laying wood shingles is greater than with asphalt roofing. We were fortunate that my brother learned the roofing method and did most of the roofing. (See OHJ August 1977 and May 1978 for details on laying wood shingles.) Laying wood shingles is a relatively slow process which can get expensive, done by a professional roofer. Before we started our restoration we all agreed that we would do as much of the work ourselves as possible. Our situation was uniquely fortunate: the carpenters that guided us through our various projects were our cousins. They were a great resource, always answering our questions and helping us avoid mistakes.

Shingle Source

The white cedar shingles the author used were obtained from:

Brewster's Lumberyard
211 Murphy Road
Hartford, CT 06100
(203) 549-4800

Delivery can be arranged, and they will ship for longer distances. Please call manager Harold McNaugh for shipping charges and other details. Brewster's is also located in Milford, CT.



IN ALL CASES it's important to have open communication of ideas between owner and tradesperson if you want to be satisfied with the outcome. We hired as few professional people as possible, the only ones being the carpenters and the helpful mason who did the fireplace and chimney work. Otherwise we've done the work ourselves.

BUT DESPITE THE INITIAL EXPENSE, we were pleased to learn that wood shingles last about five times longer than asphalt. Also, many fire-insurance companies no longer charge higher premiums for wood-shingled houses. And once they have weathered to their natural silver-grey color, they lend an air of colonial charm and authenticity to the house which would be lost with modern roofing methods.

BY HAVING WOOD SHINGLES on your home, its resale value is increased (about \$2000.00 in our area.) I strongly encourage home-owner/restorers to use white cedar shingles as an excellent investment which also greatly enhances the appearance of a Colonial home. 🏡



After restoration--the clapboards are now painted brick red as they were originally.

Peeling Problems On Stripped Shutters

SEVERAL READERS have reported paint peeling problems with woodwork that had been dip-stripped—similar to the problem described in the letter from Sandra Bergmann in the January issue (pg. 2). The problem seems especially acute in exterior shutters. Many readers have called and written with their own analysis and solutions for this vexing condition. The variety of responses showed that there is much greater agreement about what causes the problem than there is about what to do to cure it.

THE PROBLEM, in a nutshell, is this: Most dip-tank operators use an alkaline solution. This alkaline chemical is supposed to be totally neutralized before the stripped wood is given back to the customer. But it doesn't always work out that way. For whatever reason, sometimes the wood comes back with some of the alkaline chemical still down in the pores of the wood. This residual chemical can cause severe paint peeling in an exterior environment.

THE PROBLEM SEEMS more pronounced for exterior wood than interior wood. There are probably two reasons for this: (1) Exterior wood has often become more porous because of weathering and thus will absorb more chemicals; (2) The presence of moisture in the outdoor environment accelerates the action of any residual alkaline stripping chemical on the new paint.

What To Do

HERE ARE A NUMBER of ways to deal with this problem. The solutions the readers reported to us fall into three basic categories:

(1) Use a different paint stripping system rather than dipping; (2) Do some extra neutralizing; (3) Use sealers to try to isolate any residual chemicals from the new paint.

SANDRA BERGMANN, after considerable research for her company (Richard Bergmann Architects), reports the following conclusions:

(1) On any paint stripping project on exterior shutters, they now burn paint off, followed by a chemical paint & varnish remover to get any paint residue in corners and grooves. Burning paint off with a flame tool is a safe practice as long as the wood being stripped has been removed from the building so there's no danger of setting the structure on fire.

(2) On the shutters that had already been dipped and were peeling, the shutters were dipped again to remove the new paint that was failing. (The rationale for dipping again was that the damage had already been done.) After removal of the peeling paint, and trying

to make sure that the wood was neutralized as completely as possible, the shutters were then dipped in wood preservative ("Wood Life"). After the preservative had dried, the shutters were coated with an Olympic pigmented stain rather than paint. Sandra reports that this treatment has held up well so far.

Other Answers

MARTA McBRIDE GALICKI, Architectural Historian for the Vieux Carre Commission in New Orleans, reports this solution for the same problem: "We have successfully dealt with the problem of leaching on exterior shutters by advising property owners to rehang the shutters after commercial stripping so that they may weather for one year. After that time, a wood preservative can be applied and the shutters painted without peeling problems."


RHONDA BROADNAX, Ila, Ga., reports that tung oil can act as an effective sealer, helping paint to adhere to stripped wood. And David M. Doody of Wilmington, Del., wrote in to say that washing stripped wood with a solution of vinegar and water after it comes back from the stripping shop can help neutralize any residual alkaline material.

RICK MORDWIN, proprietor of Poor Richards Furniture Co. in Montclair, N.J. reports that a proper sealer is necessary before painting exterior shutters that have been dip-stripped. Rick, who has operated a stripping service for over 10 years, says that for sealers he has found both "Enamelac" and "Bins" satisfactory. Both products function both as primers and bleeding inhibitors—they will prevent old stains from bleeding through to the top coat of paint.

ENAMELAC, which is essentially a pigmented shellac, is cut 50-50 with alcohol to achieve good penetration of the first coat. Second coat is applied directly from the can—followed by two coats of exterior trim enamel.

RICK ALSO NOTES that the stripping business has attracted quite a few inexperienced people who haven't mastered all the tricks of the trade. Before entrusting any wood to a commercial stripping service, he says, you should look for either:

(1) A company that has been in business for a long time; or,

(2) A company that is part of an established franchise chain. The franchise operations have standardized chemicals and procedures that make mishaps less likely. 

Removing Exterior Paint

To The Editor:

I WOULD LIKE to offer a few words of caution regarding the article on removing exterior paint (OHJ, June 1979, pg. 69). I would think long and hard before attempting removal of exterior paint with a rotary sander as a do-it-yourself job. It requires a degree of manual skill that few homeowners would possess.

OF COURSE, the rotary sander does have the advantage of speed. However, swirl marks in the wood are a serious problem—as well as the related problem of removing too much wood in localized areas.

THE PROBLEM OF SWIRL MARKS can be dealt with by following the use of a rotary sander with a straight-line or orbital sander. This, of course, is an extra step which makes the job longer—and more expensive if a contractor is being used. The problem of removing too much wood can be eliminated by using a clapboard sanding jig. I believe Rockwell makes one.

THERE ARE ALSO SOME safety considerations. The edge of the disk of sandpaper will tend to catch under loose clapboards. In extreme situations, this could cause an operator to be thrown from a ladder. Also, I would recommend a dust mask. The dust of old lead-based paint found on most old houses is definitely a health hazard.

I MIGHT ALSO add a comment about ladders. "A"-frame ladders should never be used in the closed position leaning against a wall. They are not designed for that purpose and are likely to kick out.

Alan Keiser
Tarrytown, N.Y.

Cooling The Natural Way

To The Editor:

THE ARTICLE ON NATURAL COOLING was quite interesting, but did not mention some of the other methods for natural cooling that were designed into many houses built before the 1920's.

FIRST, many Victorian houses had very high ceilings and also very high sash windows. By opening the top sash—which in many old houses have been painted shut—it is possible to use the convection currents to cool the house substantially. Some houses are even designed with windows at ceiling level which, when opened, allow almost complete evacuation of the hot air that builds up in the upper part of the room.

ANOTHER IMPORTANT FEATURE designed into many old homes—and now thought of as only for lighting—is the skylight. These often have movable panels connected to a pulley system.

When the skylight is over a stairwell, it can create a chimney effect and allow hot air to escape at the top of the house—thus pulling cooler air in at the bottom of the house through open lower windows.

IN MY OWN HOUSE I have designed a vent from the attic into the skylight that I open in the summer. This has enabled us to keep the temperature on the second floor almost as cool as the ground floor because the hot air in the attic is allowed to escape.

ANOTHER DESIGN FEATURE of old houses are the transom windows over doorways, which usually are movable. These should be open in summer and will allow pleasant breezes to pass through the house. When the transom is over bedroom doors, it allows you to keep the door closed for privacy and still have ventilation in the room.

ALTHOUGH THE CEILING FAN was used most often in commercial installations, this form of ventilation also aids dramatically in creating a pleasant summer environment. These can usually be hung without any problem from the fixture outlet that exists in the center of most rooms.

Ted DeClercq
Montreal, Que.

Painting Galvanized Metal

To The Editor:

I HAD TO REPLACE some galvanized metal roofing over a small porch. Wanting to put a good protective coating on, I did the following: (1) Washed the metal with vinegar to get rid of any oil remaining from the mill; (2) primed with a metal primer I bought from our local paint store just for the occasion; (3) applied a finish coat of paint using the trim paint I had used on other areas of the house.

WITHIN SIX MONTHS, the paint was all peeling off. I then asked a friend who is a painting contractor what could have gone wrong. He told me I had made not one but THREE mistakes:

(1) I shouldn't have used vinegar to wash off the oil. There's always a chance of residue. I should have used mineral spirits or paint thinner—i.e., a solvent that's compatible with the primer being used.

(2) I didn't use a metal primer that was formulated specifically for galvanized metal. Galvanized steel presents painting problems that are quite different from cast iron or mild steel...and many manufacturers, such as Rust-Oleum and Sherwin Williams, make primers just for galvanized metal.

(3) The finish coat I used was not made by the same manufacturer as the primer. Sometimes you run into bonding problems when you try these "mixed marriage" paint systems. The safest course is to buy the finish paint at the same time you buy the primer—and buy the same brand.

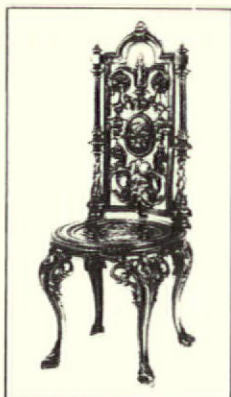
Ruth Howard
Hartford, Conn.

Products For The Old House

Victorian Mill Work

Helpful Publications

Cast Iron Furniture



STEPTOE & SWIFE Antiques Ltd. is known to many of our readers as the distributor of a fine cast iron spiral staircase. (OHJ Jan '78)

BUT THEY now also have a wide selection of re-

production cast iron furniture and accessories ranging from a Victorian pub table to a beetle boot jack. The styles are Victorian, Regency and Georgian.

THE COLLECTION includes: A fernleaf garden bench and a Victorian conservatory chair (both pictured), urns, plant and umbrella stands, and firebacks. Some of the more unusual items: A lion and unicorn footscraper and a dolphin door stop.

ALL PIECES are available in burnished metal or painted. Standard colors are black or white but special colors can be obtained at additional cost.

FOR A COMPLETE PRODUCT BROCHURE send \$1.00 to: Steptoe & Wife Antiques Ltd., Dept. OHJ, 3626 Victoria Park Ave., Willowdale, Ontario, Canada M2H 3B2. Tel. (416) 497-2989.



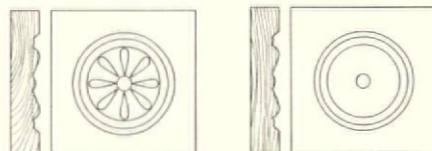
SILVERTON VICTORIAN Mill Works has a large stock of architectural mill work available in pine, redwood or oak.

ALONG WITH THE STANDARD moulding shapes, there are decorative corner and base blocks, door and window casing assemblies, eight decorative siding styles, running gingerbread ornament and exterior brackets.

REPLACEMENT WINDOW SASH in a variety of muntin arrangements and storm doors and windows can be made up to your specifications.

ESPECIALLY INTERESTING are three stock doors in Victorian styles. All items are illustrated in a 32-page catalog.

TO GET THE CATALOG, send \$2.00 to: Silvertown Victorian Mill Works, Dept. OHJ, Box 523, Silvertown, Colorado 81433. Telephone: (303) 387 5716.



Moisture Condensation Booklet

MOISTURE CONDENSATION can cause structural damage within the walls of a house as well as paint peeling and other undesirable effects.

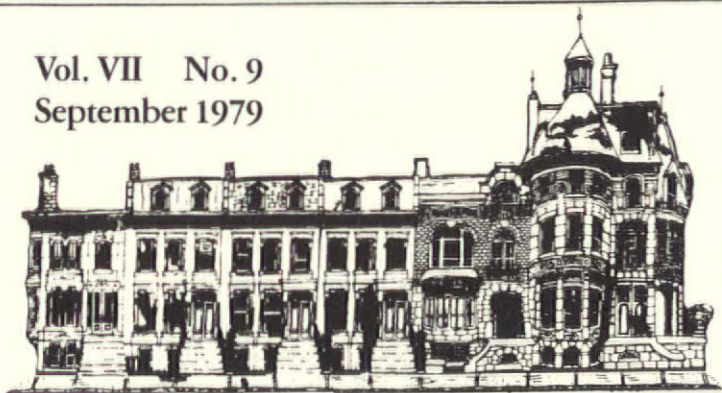
A HELPFUL BOOKLET is available that discusses the causes of moisture condensation and suggests some cures. Vapor barriers are discussed—they can either help solve the moisture problem or compound it.

THIS 8-PAGE, illustrated booklet, "Moisture Condensation F6.2, Vol. 1, No.1" can be ordered for 25¢ each from: The University of Illinois Small Homes Council, 1 East St. Mary's Road, Champaign, Ill. 61820.

A FREE SINGLE COPY of "Moisture Condensation" will be sent upon request from: Season-All Industries, Dept. OHJ, Indiana, PA 15701.

THE OLD-HOUSE JOURNAL

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September 1979



Restoration And Maintenance Techniques For The Antique House

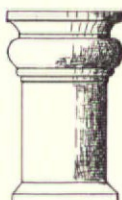
Making A Flue Liner

By Trina Vaux

IN 1975, WHEN WE BOUGHT our 1830's three-storey Philadelphia row house, an obvious advantage was the potential of seven fireplaces. The operative word here is potential. The kitchen fireplace in the basement had the soil pipe running through it, and all the others--two on each floor--had been sealed with masonry and plaster. In addition, several of the chimneys had had holes punched in them at various heights to accommodate stove pipes, now long gone. (When the flue silted up around the pipe a hole had been made higher in the chimney wall. The stove pipe was then raised and plugged into it.) In many cases these holes had ruined the arch of the original hearth opening.

WE DECIDED TO OPEN four of the fireplaces--simply a matter of sledges and crowbars while the dumpster was still available. Three of the fire boxes proved to be of reasonable size. The fourth, on the third floor, could only be described as a faggot burner: 13 in. x 11 in. x 31 in. A fortuitous heirloom--a Franklin stove--got us around the problem of narrow width. We filled the holes in the brickwork, rebuilt the arch on the bedroom fireplace, which was not to be replastered, and laid quarry tiles left over from the bathrooms and kitchens in the hearth floors.

THERE ARE, however, safety considerations closely allied with reality. We knew that



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Coming Next Month

BUILT-IN GUTTERS

the flues were not obstructed and that they drew well--the burning paper test worked, and a good deal of demolition dust went up the chimneys of its own accord.

BUT WE WERE SURE THAT the walls of the flues were less than stable. Much of the mortar had decomposed, and there were chinks in the brickwork both above and below the roof. Clearly they were a fire hazard, and no longer impervious to strong winds. As it happened, our financial situation was in a similar state of disrepair, so hiring a masonry magician was out of the question. Likewise, we were reluctant to pay for a total of over a hundred feet of ready-made liner. We decided to make our own.

The Basic Design

THE BASIC DESIGN was a sheet of iron tube to run from the throat of the fireplace to the top of the chimney. Where the flues were offset, the liner was to run from the point at which the offset stopped and the straight run began. Each tube was to have a sheet iron flange at the bottom. The liners were to be hung from the chimney by means of a 1/4 in. steel rod run through holes drilled in the liner, and set on top of the flue walls.

(Cont'd on page 102)

Fly-By-Night Contractors

To The Editor:

I HAVE SOME HARD-WON ADVICE for any of the OHJ readers who are hiring people to work on their houses: Investigate very carefully before making any commitments. So much renovation is going on here in Washington, for example, that fly-by-night operators are having a field day.

WE CONDUCTED AN INFORMAL SURVEY on our block and uncovered more than \$5,000 in losses to unscrupulous workmen in a single year. Here are a few of the horror stories:

1. Pointing job—Homeowner accepted a quote of \$1,500 and made down payment of \$600. Workman took money and was never seen again.

2. Driveway—The owner was quoted a price of \$1,000 for the job and made a down payment of \$700. Seven yards of concrete were delivered to the site and poured....but not spread! At this point the contractor disappeared. It cost the owner \$400 to have the concrete pile jack hammered apart...and \$200 more to have the stuff hauled away. A licensed contractor was called in, and he charged \$1,500 to do the driveway job correctly. But counting in the costs for the faulty job, the owner spent \$2,800 for a driveway that should have cost only \$1,500.

3. Roof—Owner quoted a price of \$900 and made a down payment of \$400. He never saw the workman again.

4. Painting job—Owner quoted a price of \$200 and made a down payment of \$50. He never saw the workman again.

IN THE FOUR CASES above, the owners did not ask to see a city license or permit; they took the workmen's word that they had one or that it was being applied for. They did not check with the consumer affairs office, did not ask for references, or go to see work that had been done before.

BASED ON THESE UNHAPPY EXPERIENCES, I would like to offer these suggestions for anyone hiring a workman for his or her house:

- Don't hire someone who wants 1/2 down so he can buy supplies—unless it is a long-established firm. There's a strong possibility you'll never see him again.

- Don't hire someone who doesn't have a city license.

- Don't hire someone you don't know by reputation.

- Don't hire someone whose past work you can't check on.

- Don't hire wino's.

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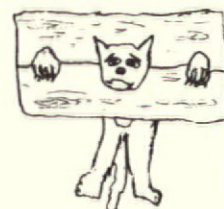
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● Don't use a word-of-mouth contract; get it in writing.

BY THE WAY, the driveway in example #2 above, was mine!

C. M. Giordano
Washington, D.C.

Cat Odors: Is There An Answer?



To The Editor:

I RECENTLY PURCHASED an old house that is quite lovely in all respects save one: It had been owned previously by a "cat lady." The house is completely filled with cat odor!

AND IT'S NOT JUST in the floor boards. One of their favorite haunts was the plate rail in the dining room. The plaster and baseboard below the plate rail are soaked with "essence of cat."

HAVE ANY OF the other readers solved a similar problem successfully?

Don Wardell
Ypsilanti, Mich.



WE'D LIKE TO HEAR from any readers with first-hand experience with this problem. We'll publish the answers as a symposium-in-print.—Ed.

The Mysterious Roof Leak— A Drama In Two Parts

By Frank Bogardus, Manlius, N.Y.

WHEN A ROOF LEAKS, there may be more to the problem than holes in the roofing material. An old house I worked on recently illustrates the complexity of the problems that you'll sometimes face. I had been asked to put a new roof on a house that had a recurring leak in a first-floor family room. The leak showed up, the owner told me, only during the coldest periods of winter when a foot or more of snow is on the roof.

THERE WAS NO QUESTION that the entire house needed a new roof. Its asphalt shingles were brittle and cracked, with much of the mineral surface worn off. It seemed clear that the leak in the first-floor room was due to ice damming. During the winter, when snow on the roof repeatedly thaws and freezes, it creates a build-up of ice along the eaves. Ice dams can grow to two ft. thick or more before a prolonged thaw melts them off.

ICE DAMS FREQUENTLY cause roof leaks that don't show up during other parts of the year. As the ice builds up vertically, it also backs up the roof, creating a shape that looks like a pie-wedge in cross-section. The dam prevents subsequent melting from running off the eave. The water lies under and behind the dam, oozing its way through the roofing material into the house.

LEAKAGE FROM AN ICE DAM may appear on the walls and ceilings inside, as well as underneath the exterior siding. In severe cases, water that penetrates from a second floor eave can go all the way to the cellar.

For Ice Dams - An Ice Edge

FOR RELATIVE DURABILITY and economy, the owner and I agreed that a good choice for the new roof would be 290-lb. asphalt shingles, combined with an ice edge made of galvanized sheet metal. The shingles are guaranteed for 25 years—but would probably have a life expectancy less than that in the weather extremes of central New York.

THE METAL ICE EDGE is a proven way to combat ice dam leakage. However, installation has to be done properly to give adequate protection. A half-way job is never sufficient. To merely shove roll aluminum under existing shingles is hardly worth the effort, because most ice dams will extend up the roof beyond the make-shift metal edge.

TO MAKE A PROPER ICE EDGE, galvanized steel was selected for this job because it is nearly as inexpensive as aluminum, but it is considerably more puncture-proof, and does not expand and contract as much. One drawback is that galvanized metal needs to be painted. The zinc coating will resist rusting for several years, but eventually it will weather through.

TO PAINT GALVANIZED STEEL, I first wash it with a solvent (such as paint thinner or mineral spirits) to remove any oil from the mill. Then I etch it with a zinc primer and give it two coats of exterior paint.

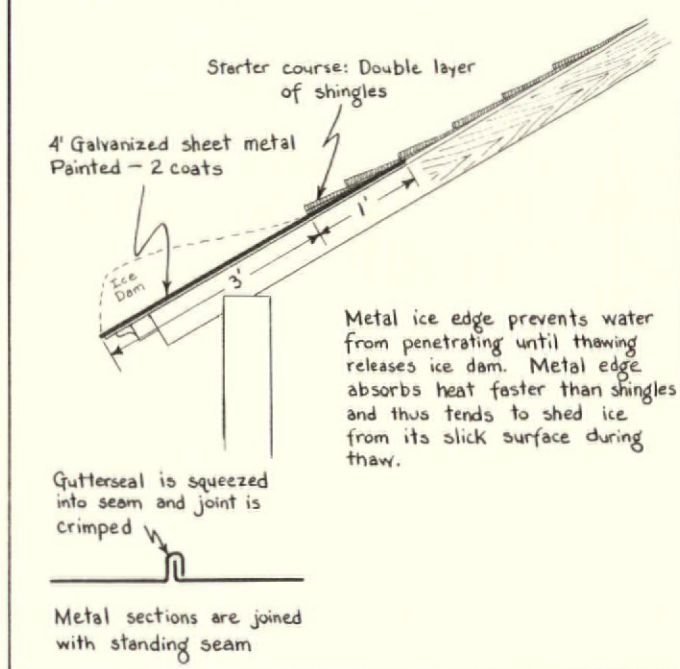
6 GALVANIZED STEEL is available in 4 ft. x 8 ft. sheets that permit a 3-ft. exposure of the metal with a 1-ft. overlap of shingles—which is adequate protection from ice damming in all but the most severe conditions. (On more steeply pitched roofs, less exposure is needed and 3 ft. x 8 ft. sheets can

Further investigation showed that chimney was causing melting that was contributing to the leak problem.



Leak still showed up (arrow) after a new roof had been put on and a galvanized metal ice edge had been installed at the eaves.

METAL ICE EDGE PREVENTS LEAKAGE FROM ICE DAMS



be used.) The metal is firmly bedded in roofing cement and then joined in sections with a crimped standing seam (see diagram). They can be joined in full-length 8-ft. sections, but I prefer to cut the sheets in half to make seams every 4 ft. These shorter sections have two advantages: (1) I find them aesthetically more pleasing; (2) Having more joints gives greater allowance for expansion and contraction.

THE NEW ROOF AND ICE EDGE was completed in the early fall. About the second week in December, a few days after the first heavy snowfall, the owner called me and said that the leak had reappeared, in the SAME PLACE!!! Needless to say, I found this hard to believe. I have made numerous similar installations, and they have all proved satisfactory. I went right over to take a look.

Finding The REAL Problem

FOR THE FIRST TIME, I made a thorough inspection of the underside of the roof. There had seemed no need to do this before, since it had seemed obvious that it was an ice damming problem. The roof involved is on a shed-type structure, extending about 20 ft. off the rear of the house. Above the first floor in the shed section is a small, unheated attic, tapering from about 4 ft. high where the shed meets the main house to nothing where the rafters meet the plate.

THERE IS TONGUE-AND-GROOVE FLOORING in the attic, which played a critical role in this drama. Several years ago, when the owner decided to insulate the attic he didn't want to remove the floor boards to put insulation be-

tween the floor joists. Instead, he stapled foil-backed fiberglass insulation batts between the roof rafters. This, he supposed, would accomplish his purpose of keeping heat from escaping the house too quickly. He also thought that some heat retained in the attic would make it more usable for storage.

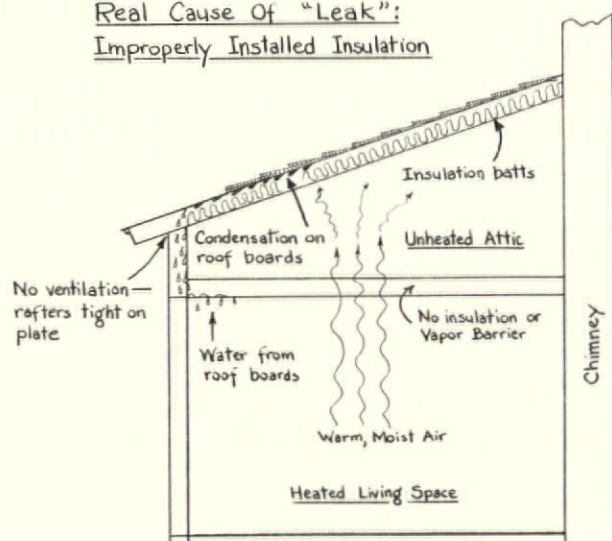
Detective Work

AFTER SEVERAL INSPECTIONS and serious head-scratching, I realized that the insulation might be at the root of the problem. The insulation between the rafters did not keep the warm air from reaching the underside of the roof, but only served to hold it there. Taking down some of the fiberglass, I found the roof boards covered with droplets of water. Some of the boards were sodden and on the verge of rot.

ON COLDER DAYS, frost formed in the place of water. The frost would build up until the weather turned warm. Then the melted water would trickle down the slope of the roof until it hit the plate. From there, it would soak through to the ceiling of the room below.

TO TRY TO SOLVE the problem, the owner has installed insulation—with a vapor barrier—between the attic floor joists. This hopefully will drastically reduce the flow of moist air to the attic. I also put three vents in the roof to create air circulation to draw off residual moisture. There was no way to install

Real Cause Of "Leak": Improperly Installed Insulation



Real cause of the "leak": Warm, moist air was rising into the cold attic from the living spaces. Moist air was getting behind the insulation batts and condensing against the cold roof boards; condensed water then leaked down into the ceiling.

soffit venting because there are no rafter tails; the cornice is built entirely below the plate level.

I HAVE SUGGESTED that the owner remove the insulation between the rafters, to allow air to circulate freely under the roof boards. But he is reluctant to see his past effort and expense go to waste.

Patching Metal Gutters



LD METAL GUTTERS are going to require repair from time to time. And this is one type of repair that should not be delayed—because leaky gutters can cause disastrous damage in an old building. Metal gutters can range from modern aluminum ones or galvanized steel through the more classic materials like copper, terne metal or lead-coated copper.

WHEN CONFRONTED BY a deteriorated gutter, the first decision is the "repair or replace" choice. Every building material has a finite life span and must be replaced at some point. If you have a metal gutter that is deteriorated at many points, you're probably better off replacing the entire system. Conversely, if there are just a few bad spots, with judicious mending you may be able to get an extra 10-15 years of service from the existing gutter.

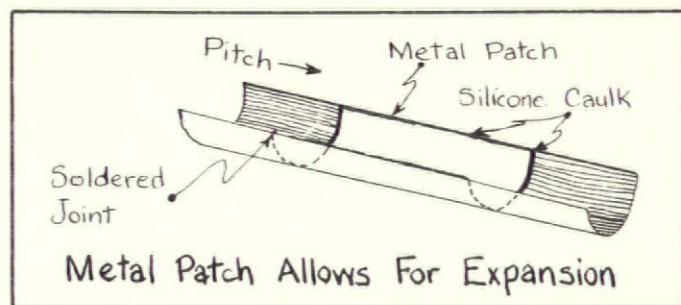
Expansion/Contraction



METAL GUTTERS expand and contract with changes in temperature. Thus any gutter system with soldered joints is under continual stress—and the joints are likely to open. Soldered gutters should be inspected annually, and any broken joints resoldered. This kind of soldering is beyond the capabilities of most do-it-yourselfers.

WHERE HOLES EXIST, you can patch a couple of ways. We don't recommend epoxy-fiberglass patches because these create a rigid bond that expands at a different rate than the metal. Thus they could work loose.

PATCHES CAN BE MADE WITH METAL—but be sure to use the same metal as the gutter is made from. This will avoid corrosion by galvanic action



THIS TALE HAS TWO MORALS: (1) When setting out to fix a leak in a roof, be SURE you know where the water is coming from; (2) Beware installing insulation between roof rafters. If it is imperative to put insulation in the top of an attic, be sure there is provision for ventilation BEHIND the insulation. See OHJ, Sept. 1976, p. 9, for a general discussion of attic insulation problems.

between dissimilar metals. One type of patch that can be made on metals that can be soldered (e.g., copper) is shown in the sketch. Clean metal well with steel wool, then solder patch on the uphill side of the break. Seal the patch on the downhill side with a high-quality silicone caulk. (See sketch.) Having one free-floating end allows patch to expand as needed.

ANOTHER WAY to patch with metal is to cut a metal patch of appropriate size, and then hold it in place only with silicone caulk. This avoids the need for a soldered joint. You clean the gutter well, apply a liberal amount of caulk on the gutter, then bed the patch firmly in the caulk...paying special attention to the seal at both ends of the patch. Although silicone caulk should have a useful life of 10 or more years, this kind of patch requires careful monitoring through annual maintenance check-ups.

IT IS ALSO POSSIBLE to make a less durable patch with flashing cement and a fabric material such as burlap, roofing membrane or building paper. There's always a chance that a black roofing compound or flashing cement will contain acidic materials that will attack the metal. So protect the gutter with a good-quality metal primer (such as Rust-Oleum).

THE STEPS in making this type of patch would be: (1) Clean gutter thoroughly; (2) Paint with a metal primer; (3) Apply coating of flashing cement or roofing compound; (4) Embed fabric in the cement; (5) Cover patch with another coat of flashing cement.

AVOID COATING THE ENTIRE metal gutter with a coating such as roofing cement. If any water does get under such a coating, it will be held in contact with the metal indefinitely.

Need For Maintenance

FREQUENT INSPECTIONS and cleaning of metal gutters are imperative. In addition to spotting troublesome leaks, inspections allow you to see whether any organic debris is building up in the gutters. Besides impeding water flow and causing ice damming, such debris tends to hold moisture. The moisture will react with any acidic elements in the debris or in the pollutants from the air to create acid that will hasten the destruction of the gutter material.

GALVANIZED METAL should be kept painted. If it is bare or rusted, prime with a metal primer (one made for galvanized steel), followed by a top coat of any exterior enamel—preferably one made by the same company that made the primer.

(Flue Liner--Cont'd from pg. 97)

Once the liners were installed, we would pour concrete around them to give stability. In addition, we decided to attach guides to the inside of the liners for rods to operate dampers we intended to install at the chimney tops. (None of the chimneys had existing dampers.)

THE MATERIALS NEEDED FOR THE LINER job were 4 ft. x 7 ft. sheets of 20 gauge galvanized sheet iron, short pop rivets and a pop riveter, shears or tin snips, a drill, concrete, 1/4 in. steel rod, and two people.

FOR OPENINGS 13 in. square we wanted a liner diameter of roughly 12 in. The standard size sheet iron available was 4 ft. x 7 ft., so the first step was to trim 7-1/2 in. off the width of the sheets so they would, when rolled with a 3 in. overlap at the joint, have the proper diameter. We also had to trim the length of several sheets because the flue heights were not convenient 7 ft. multiples. The long narrow leftovers were used to make guides for the damper rods and collars for rolling the sheet iron. Larger pieces were saved to make flanges for the bottom of the liners.

BEFORE THE SHEET IRON WAS ROLLED we cut 4 in. strips off the 7-1/2 in. x 7 ft. leftovers, bent them to make a flange at each end, and riveted them down the center of the large piece of sheet iron. (Although we used pop rivets,

short metal screws, stove bolts, or solder may be preferred by others.) We installed four guides on each 7 ft. section, fewer on shorter sections, and, of course, were careful to line them up.

Rolling The Sheet Iron

ACTUALLY ROLLING THE SHEET IRON can be a trial; the sturdy gauge we thought necessary is quite stiff. To ease the process we cut the 7-1/2 in. leftovers into two pieces and riveted them to make collars of the proper circumference. These were then slid around the liner sheet as it was rolled, guiding it to the necessary dimension, and holding it so that riveting would be easier. (This is where two people are necessary--one at each end of the liner to insure that it rolls and does not bend.) With the liner rolled (damper guides are on the inside) and held by the collars, the two edges were riveted at the overlap.

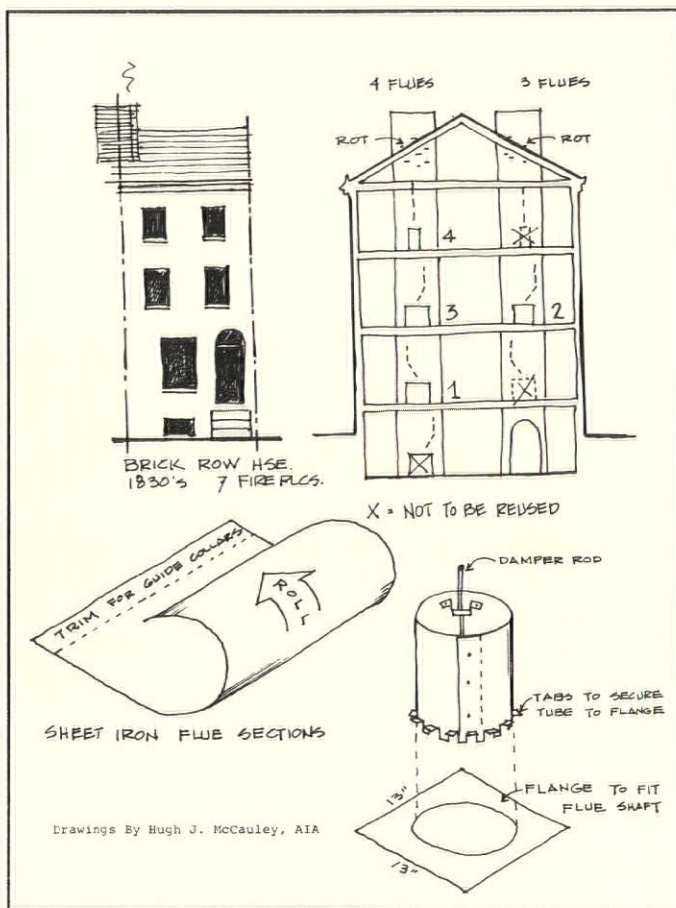
THIS PROCESS WAS REPEATED until we had enough sections of liner to run the height of the flue. In the section which was to be at the top, we drilled two 1/4 in. holes to accommodate the steel rod which would hold the liner in place once it was installed.

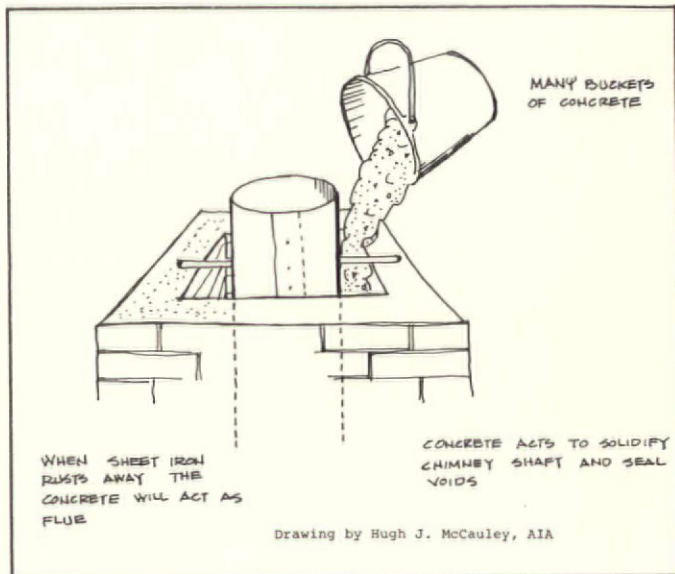
THE NEXT STEP WAS to put a flange on the bottom section. The purpose of the flange is two-fold: To prevent smoke from getting between the liner and the flue wall, and to serve as a stop for the concrete when it is poured around the liner. In actual practice it will never be totally effective because of the impossibility of installing a flange which fits perfectly, will go down the chimney easily, and is secured to the liner. However, it does the job reasonably well.

Making A Flange

FOR THE FLANGE we cut a piece of sheet iron slightly less than 13 in. square (the size of the flue), and then, using the bottom liner section as a guide, marked and cut a hole in the center corresponding to the size of the liner. We then checked it for size, and to make sure it would slide down inside the flue. (We were lucky--there were no bricks protruding from the flue wall.) The flange and liner were then attached by a tab connection. (Tabs of approximately 1 in. square are cut in the end of the liner, and every other one is bent back at right angles. The flange is then slid on, and all tabs are hammered down against the flange.)

THE FINAL STEP in fabrication was to join the sections to make the necessary length. This was done by sliding one section about 2 in. down inside the next (making sure the damper rod guides line up) and riveting at the overlap. In most cases we made lengths of no more than 14 ft. while still on the ground. Longer lengths were made up of 14 ft. sections once they were on the roof. In fact, some riveting had to be done with one section already in the flue, and the next one set above it, since





one of could hold the top end high enough to make the liner perpendicular. This part of the installation required at least two people (one to keep the lower section from slipping down the flue, and one to rivet) and some choice vocabulary. Once the liner was in the flue, we put a piece of 1/4 in. steel rod through the holes previously drilled in the liner, and rested the ends of the rod on the top of the flue walls.

The Concrete Proposal

HAVING LINED ALL FOUR working flues in this fashion, the temptation to consider the job finished was overwhelming. Like all other old house owners, the dream of being "finished" is constantly with us, floating in the evanescent future. For the present, finding a cheap source of concrete was the next task.

FILLING IN THE SPACE BETWEEN THE LINER and the flue wall, as it turned out, took unimaginable amounts of concrete, time and brawn. We estimate that 80 lbs. of concrete were required per foot to fill the 1 in. space between flue wall and liner.


ALL OF IT HAD TO BE HOISTED up three storeys and poured down the chimney. We ended up buying stone and sand in bulk delivered to the back yard, renting a small electric cement mixer, and enlisting the help of the next door neighbor who shares the chimneys. Thus, cost and effort were divided. Gloves and block and tackle were essential, and hot baths taken in conjunction with the most favored relaxant/pain killer (whether Ben Gay, gin, or both) were required.

IT MAY BE THAT ALL flue walls do not need to be completely filled with concrete, depending on the extent of decay. Some of ours were in pretty bad shape and needed the added stability. We also wanted to insure that the smoke went



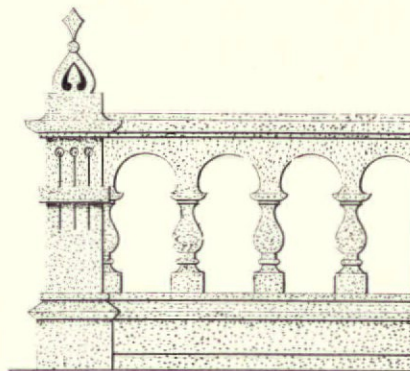
The author's 1830's row house in Philadelphia.

up the liner and was prevented from finding chinks in other flues. Finally, galvanized sheet iron will eventually decompose; a solid wall of concrete around it provides security when that happens.

THE HAPPY ENDING is that we now have four fireplaces that draw splendidly, and do not leak smoke. They do not leak water and heat, and our next job is to install damper caps--about which, and on completion, we will provide a full report for these pages. 

Trina Vaux is a Philadelphia-based preservation consultant who has also had experience in public radio and arts management. She is a co-author of *The Cape May Handbook* and has participated in historic architectural surveys in New Jersey and Pennsylvania. While lecturing and giving courses and workshops on preservation, she and her husband, Hugh J. McCauley, AIA, are constantly in search of time to finish renovations on their own old house.

Sand Paint



By Carolyn Flaherty

SAND PAINT is an unusual paint finish that was common in both the 18th and 19th centuries. By dusting sand onto the paint after it was applied and still wet, painted wood was made to resemble stone. Sand was most often blown onto the paint with a hand bellows.

Historic Use

SAND PAINT IS still found today on many historic homes. Mount Vernon is the most widely known. It was George Washington himself who has left the best record of why and how sand paint was used. The following is an excerpt from "Writings of Washington" and is his instructions to his building supervisor in Washington City.

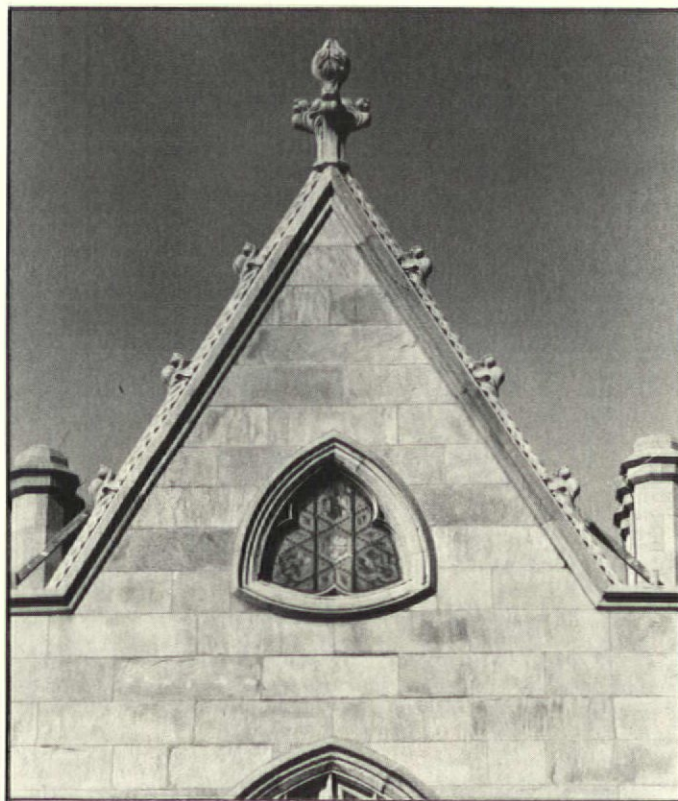
Sanding is designed to answer two purposes, durability, and presentation of Stone: for the latter purpose, and in my opinion a desirable one: it is the last operation, by dashing, as long as will stick, the Sand upon a coat of thick paint. This is the mode I pursued with the painting at this place, and wish to have pursued at my houses in the City. To this, I must add, that as it is rare to meet with Sand perfectly white, and clean: all my Houses have been Sanded with the softest free stone, pounded and sifted: the fine dust must be separated from the Sand by a gentle breeze, and the sifter must be of the fineness the sand is required and it is my wish to have those in the City done in the same way. If the stone cannot be thus prepared in the City, be so good as to inform me, and it shall be done here and sent up. It must be dashed hard on, and long as any space appears bare.

IN A 1950 restoration of Carpenters' Hall in Philadelphia, the exterior trim was found to have a bottom layer of sanded paint. It was a putty color mixed with a light-colored sand. Carpenters' Hall was built in 1770-1774 of stone and wood and both materials were sand painted. It is believed that stone color finishes were popular in Early America because they imitated British Georgian stone architecture.

Sand Paint In The 19th Century

SAND PAINT continued to be used in the 19th century. Many elderly painters can remember using hand bellows to apply the sand which had been dried by heating. It was thought in the Victorian era that sand painting was valuable as a means of fireproofing.

WHEN ALEXANDER JACKSON DOWNING began designing his romantic and picturesque Victorian houses, he espoused the doctrine of truthfulness of materials--wood or stone should appear to be what they actually are. Where did this leave



East gable of Lyndhurst, the Gothic Revival mansion in Tarrytown, N.Y., has its wooden finial, crockets and mouldings sand painted to resemble stone. (Photo courtesy of The National Trust for Historic Preservation.)

the practice of sand painting? Well, Downing made an exception because he so disliked the appearance of stone and wood in the same structure. The following is his rationalization taken from his influential book, "The Architecture of Country Houses" published in 1850:

Perhaps an exception may be allowed in the case of wooden verandas, and such light additions to buildings of solid materials as we often see in this country, in districts where the stone is so hard as to be costly when wrought into small parts, so that wood is often used, but is so painted and sanded as to harmonize with the stone. In this case, we say, the apparent untruthfulness is permissible, for the sake of a principle almost equally important--unity of effect; for nothing is more offensive to the eye than an avowed union of wood and stone in the same building. But of course, this is a sacrifice to expediency; and the more truthful treatment, viz. making all portions of one material, is the only satisfactory one.

SO WITH THIS DISPENSATION and implied approval, many houses in the Italianate, Gothic, and English rural style had their verandas, window frames, door frames and sometimes doors and brackets sand painted to imitate stone.

THERE IS A GREAT DEAL of written evidence that the cast iron railings of brownstones had been sand painted to imitate the brown stone of the building. This all-over stone brown look is probably what caused novelist Edith Wharton to refer the Manhattan rowhouses of her time as rows of "chocolate mousse."

Using Sand Paint Today

BEFORE YOU CONTEMPLATE using sand paint there is one important fact to consider--it is almost impossible to remove. In fact, one of its biggest advantages is durability. In the brownstone neighborhood where The Journal's office is located I was able to find many examples of sand paint. It was on cast iron railings that had fallen into a sad state of disrepair and obviously hadn't been painted in 100 years. But the sand paint was clinging to the iron--still giving an amazing illusion of stone.

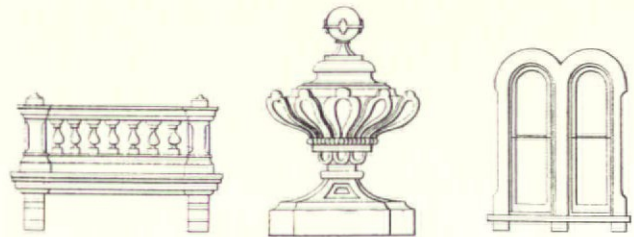


THE NEXT CONSIDERATION is: Where are the appropriate areas of the house to use sand paint? I think A. J. Downing's mid-19th century advice is a good starting point. Any place where wood is used in conjunction with stone is an area to consider.

FOR INSTANCE, on any brick or stone house there are many architectural elements that could be sand painted:

1871 Paint Card

A REPRODUCTION of an 1871 paint manufacturer's color card is available that shows six different sand paints among the 48 samples. At the time, ready-made sand paint was often used. The card is the same one that appeared in the book Exterior Decoration--now out of print. No. 51 purports to be a "Perfect Imitation of Brown Stone." This attractive, 11 x 14 in. card is \$2.00 from the American Life Foundation, Watkins Glen, New York 14891. There is a limited supply.



- ▶ WINDOW AND DOOR FRAMES--Brick houses often had grey or tan stone-colored sand paint on window frames, and any light-colored stone house benefits from having window or door frames painted in a matching stone color.
- ▶ VERANDAS--Any veranda, small porch or portico can be sand painted.
- ▶ DECORATIVE TRIM--Crocketts, corbels, finials, brackets and any decoration on the stone house could be painted in a matching stone color.
- ▶ RAILINGS--Balustrades on small balconies, roofs, or stoop railings are good candidates for sanding.

How To Create A Sanded Finish

THERE ARE TWO BASIC WAYS to apply sand paint. The first is to mix the sand in with the paint. This a method used years ago and ready-made sand paint was sold (as shown in the color card described in the above box). Ready-mixed sand paint is sold today for interior use. Although many professional painters use this method it is not the preferred one. Paint mixed with sand is very difficult to apply and the finish does not give the same illusion of stone as happens when the sand is blown on.

THE PREFERRED METHOD is blowing sand onto wet paint. This can be done with an old-fashioned hand bellows or with a modern "glitter gun." A glitter gun is sold for the purpose of spraying colored chips onto a textured ceiling or exterior surface--for reasons better left unexplored. But they also make terrific tools for spraying sand. (See box on next page.)

Getting A Glitter Gun

GLITTER GUNS can be purchased from the Goldblatt Tool Company. There is a hand powered model that requires no compressor to operate. It works by cranking a handle which dispenses the sand and sells for \$31.65.

THERE IS ALSO a larger deluxe model which sells for \$58.50 and needs a compressor to operate (compressors can be rented). It is recommended for heavy duty work when covering whole buildings.

THE HOMEOWNER who is only painting a part of the house--a railing, window frames, etc.--should find the hand model quite adequate.

TO GET a free copy of the Goldblatt catalog, write to: The Goldblatt Tool Company, Dept. OHJ, 511 Osage, Kansas City, Kansas 66110.

ONE CAUTION: If you do not plan to buy or borrow a glitter gun, I cannot promise that any bellows will do the job. Recorded information only tells us that a hand bellows was used but there is no evidence to the actual kind. It is possible that it was a type of tool that is no longer around.

BEFORE USING THE BELLOWS try the technique on a sample board. In fact, no matter what the method, it should be tried out on a sample board. A variety of finishes can be gotten with the glitter gun just by the way the tool is used. By testing it on a sample first, you can find out which is the best for your building.

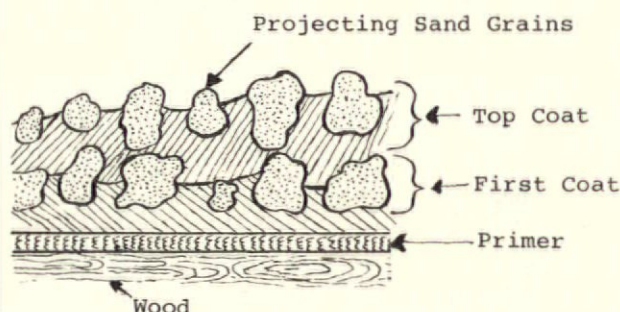
The Sand

TWO FACTORS are important concerning the sand--texture and color. As most sand is either a gray or tan stone color it is not too much of a problem to obtain a sand that is similar to a stone house.

IT IS FAR MORE DIFFICULT to reproduce a sandstone or brownstone effect. They did it at the Morse-Libby mansion in Portland, Maine. For those who want to get serious about it and to use it in fairly large quantities, I recommend reading about it in the report published about the mansion. (Reviewed in the May 1978 OHJ.)

TO MATCH THE BROWNSTONE of the facade they had to use purple garnet sand, orange garnet sand, fine brown sand and other ingredients. A quick way to make a small amount of sand paint in a brownstone color is to use some old, deteriorated brownstone crushed up to the fineness of sand with a mortar and pestle.

The Order Of Finish



RESTORATIONISTS have successfully used play sand (sold for sand boxes) which can be bought at the hardware store. It is sometimes too coarse. It can be poured through a framed screen (a window screen will do) to sift out the too-large particles. Building supply stores generally carry two or three grades of sand. Just by looking at the available varieties, one can probably be selected that is right for the job.

TO MATCH AN EXISTING SAND PAINT, you can dissolve a patch of it in paint remover (preferably water-soluble) and then wash off the paint remover. What is left is the sand that was used originally.

Applying The Finish

PROCEDURE FOR the application of sand paint is basically five steps:

- 1) SURFACE PREPARATION: The most important step in any paint job. (The June 1976 OHJ elaborates on surface preparation and an article in the December 1974 OHJ deals specifically with preparation of iron.)
- 2) PRIME with any good, appropriate primer.
- 3) PAINT with a good quality oil-based house paint. (We have no information on latex paint being used for this purpose--either pro or con--but oil-based paint has been traditionally used.) The paint color should approximate the desired stone color.
- 4) BLOW ON SAND: This must be done while the paint is still wet. If you hold the blower too close to the surface it will move the paint around. The proper distance away from the paint is something that should be worked out with the sample board.
- 5) REPEAT THE PAINTING AND BLOWING OPERATION: Although just one coat of sand can be used, two coats are infinitely better. It produces a more stone-like appearance and will be much more durable. NOTE: Let the first coat dry thoroughly before applying the second.

Refinishing Clinic

By John Zirkle, Harrisonburg, Va.

Painting Galvanized Metal

Q. People have told us that no paint will stick to galvanized metal surfaces. We recently had to replace the gutters and leaders of our Victorian house. The appearance of the galvanized metal is very objectionable to us. Now the man at our local paint store tells us that latex exterior house paint is a good primer for unruined galvanized metal gutters and downspouts. Is this true?

A. Yes, it is true, although I cannot explain exactly why. Most good latex exterior paints applied to unruined galvanized which has been cleaned of all oily residue makes a good primer as well finish coat. Be sure the oily coating which is on much new galvanized is removed by mineral spirits before painting the metal. Holdtite from Davis Paint Company of Kansas City is good as a galvanized metal primer as is SWP's A-100 Latex House Paint. A different type of primer, Gal-v-Grip from Derusto is also good for large galvanized metal surfaces, though it is slightly more expensive than the latex house paints. One more caution. The latex paints to which I refer all have a flat finish. The gloss and semi-gloss latexes may not be suitable for primers on galvanized metal.

A Whitewash Formula

Q. We have some outbuildings and fences we just want to whitewash. Can you give us any hints on making or applying whitewash?

A. I can reprint a formula that is over one hundred years old:

"Lime whitewash is made from lime well slaked. Dissolve two and a half pounds of alum in boiling water and add it to every pailful (2-1/4 gallons to 2-1/2 gallons) of whitewash. Lime whitewash should be used very thin (because of the laws of light reflection which I cannot explain, your wet whitewash will be much more transparent than the dry) and when it is sufficiently bound to the wall by means of the alum, two thin coats will cover the work better. Most whitewashers apply their wash too thick and do not mix a proportionate quantity of alum to bind it, consequently the operation of the brush rubs off the first coat in various parts and leaves an uneven surface..."

Some people I know use salt in preference to alum, but I can't vouch for this.

Preserving An Unpainted Fence

Q. We bought a house built around 1900. The back yard is enclosed by a six ft. high old, unpainted, board fence. The fence blends in perfectly with the plantings in the yard, and we do not wish to paint it. It is in not too bad condition, but we would like to preserve it with some sort of non-glossy clear finish. It seems that all of the finishes that we have checked on cost an arm and a leg. Can you suggest anything else?

A. Linseed oil is one of the most economical clear finishes you could use. You might get a little more protection for the fence by adding a pint to a quart of spar varnish to every gallon of oil. This will cost you just a little more, but should be worth it. Since your surface is old and weathered, use raw linseed oil rather than boiled. Don't worry if you get some shiny spots because of the added varnish. These will disappear in a few weeks.

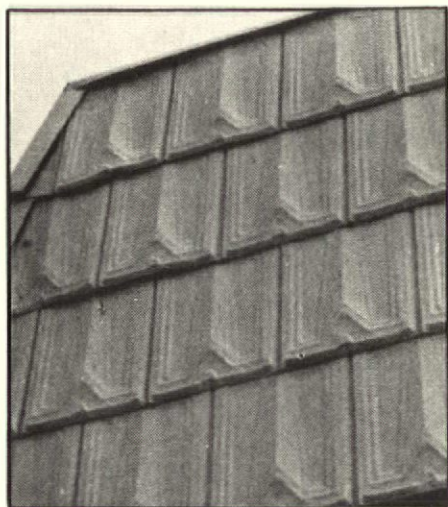
Correcting a Water Stain

Q. The roof of my turn-of-the century house leaked. Water came through and stained a bedroom ceiling. The plaster of the ceiling is still firm but there is a large yellow stain where the water had come through. I have repainted the ceiling twice with a good latex paint. The stain came back after each coat dried. How can I correct this?

A. The stain is water soluble. It begins to come through each time while the latex paint is still wet. You might correct this by using a solvent-thinned alkyd instead of a latex paint. Better yet, coat the stained area with a good coat of shellac as a primer and sealer. There are also commercial stain sealers available at paint stores. Many of these are simply pigmented shellacs.

John F. Zirkle is a retired housepainter and paperhanger. He began painting for his father when he was ten years old and later went into partnership with him in a paint contracting and retail paint and wallpaper business. Above are some of the questions he has answered in his many years of experience.

Products For The Old House



Metal Shingles

ONE OF THE MORE UNUSUAL roofing materials used in the late 19th and early 20th centuries was metal roofing shingles. Most often, these shingles were made from galvanized steel and were painted.

FINDING replacement metal shingles is quite difficult. There are only two sources in the U.S. that we've been able to find. And there are only a couple of patterns available.

METAL SHINGLES have several advantages for old houses: (1) Aesthetic appeal; (2) Long life; (3) Light weight; (4) Fire resistance; (5) They are cooler than asphalt shingles in the summer.

SHINGLES ARE AVAILABLE in such metals as: Galvanized steel, aluminum, terne, copper and Microzinc 70. The galvanized and terne shingles have to be painted—which can be an advantage if you are trying to match a roof color to the color scheme of the house.

METAL SHINGLES could be considered where an asphalt shingle roof has to be replaced and you are looking for something with more of a period look. Metal shingles could also be used on a Mansard roof where it is too expensive to replace with slate.

METAL SHINGLES are somewhat more expensive than asphalt: Galvanized is about \$70 per square; terne is \$130 and copper is \$400. In addition, it costs about \$35 per square to install metal shingles. One problem with metal shingles is finding a roofer to install them; many of today's asphalt-oriented roofers don't want to bother.

THE TWO SUPPLIERS of metal shingles are:

● CONKLIN Tin Plate & Metal Co., P.O. Box 2662, Atlanta, GA 30301. Tel. (404) 688-4510. Conklin currently makes only Diamond Pattern shingles, but also has old dies on hand (including a gothic pattern) and could produce a special run. Conklin sells mainly in the Southeast, but can ship to all points. Also makes galvanized gutters and accessories. Brochure on Diamond Pattern shingles available free.

● BERRIDGE Manufacturing Co., 1720 Maury, Houston, TX 77026. Tel. (713) 223-4971. They make several styles of metal shingles; their traditional pattern is called "Victorian Shake." It's made in Galvalume—an aluminum-zinc alloy on steel that lasts longer than standard hot-dipped galvanized. It weathers naturally to the color of dark zinc. Company also makes standing seam metal roofing in terne, copper, Galvalume, and prefinished metal. Catalog free.

Helpful Publications

Return To The City

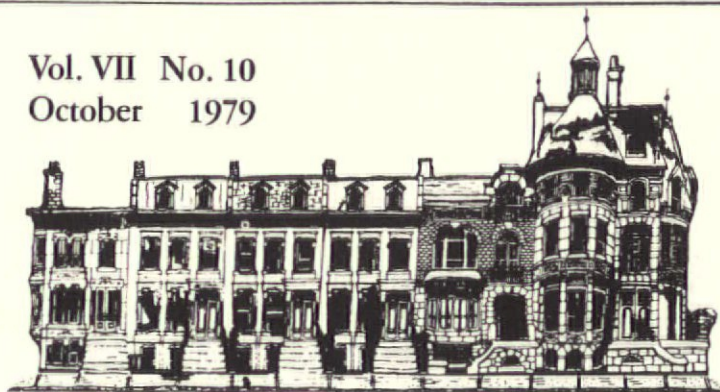
RICHARD ERNIE REED—author of "Return To The City"—traveled 10,000 miles across the U.S. to provide a graphic report on how preservation is faring in America's cities. His findings are upbeat without being panglossian. From Portland, Maine, to Portland, Oregon, Reed shows how energetic and creative people are producing delightful living environments from buildings and neighborhoods that skeptics had given up as lost.

THE BOOK IS not primarily a how-to-do-it manual, although there are helpful chapters on: Organization; Creating A Neighborhood Identity; Design Unity; Gaining Control Of Your Community; and The Problem Of Displacement.

REED's research will prove invaluable to anyone trying to get a neighborhood preservation group organized. When the task seems hopeless, it's always reassuring to have proof that it CAN be done. "Return to the City" is available for \$8.95 from: Sales Service Desk, Doubleday & Co., 550 Stewart Ave., Garden City, NY 11530.

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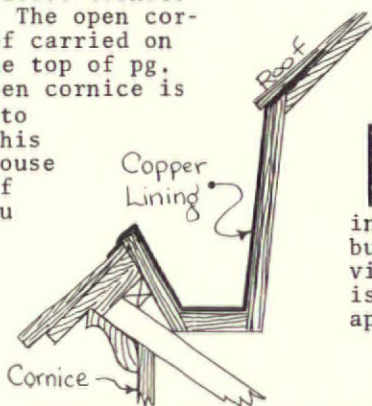
Restoration And Maintenance Techniques For The Antique House

Maintenance of Gutters

By The Old-House Journal Technical Staff

LEAKING GUTTERS are an insidious enemy. Although the damage resulting from the leaks during a single rain storm can seem minimal, when the leak is allowed to continue year after year, the result can be calamitous. The damage will be especially severe when a built-in gutter is leaking into a box cornice. In this article, we'll review some of the more unusual gutter systems that are found on old houses and look at some repair and maintenance ideas.

BEFORE GETTING into the details of gutters, we should look at the two basic types of cornice systems: Open and Closed. (The closed cornice is also called a "box cornice.") The open cornice is simply an overhanging roof carried on exposed rafters (see sketch at the top of pg. 116). When the overhang of an open cornice is large enough, it may be possible to do away with gutters entirely. This cleans up the appearance of the house considerably. The disadvantage of not having any gutters is that you lose all control of where storm water ends up. You may find it dripping in an unpleasant way over entrances. Also, storm water may collect next to the house in pools that cause basement flooding. If gutters



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Coming Next Month

THE CRAFTSMAN HOUSE

are needed on an open cornice, they would have to be of the hung or flush types.

THE MAJOR ADVANTAGE of the open cornice is that it is completely ventilated, since air can circulate freely. This avoids some of the rot problems that closed or box cornices fall prey to.

IN A CLOSED OR BOX CORNICE the rafter ends are completely enclosed by fascia and soffit boards. (See sketch at top of pg. 116.) This makes a more elegant looking cornice—and allows more design flexibility in the way gutters are handled. Gutters on a boxed cornice can either be of the hung or built-in variety.

Built-In Gutters

ABOUT THE ONLY ADVANTAGE of a built-in gutter (see sketch at left) is appearance. A correctly built—and maintained—built-in gutter is a thing of beauty. A built-in gutter is almost completely invisible from the ground, and thus there is no unsightly gutter line to mar the appearance of the cornice. Built-in

(Continued on page 116)

Carpenter Gothic Revival

By Barbara Schiller

WHEN CHIP AND JANE LEONARD began renovating their old house in Colfax, North Carolina, the whole community watched with interest and enjoyment. For Harmony Hill had been bought in the early 1900's as the summer residence of Lt. Governor C. R. Reynolds, a generous and hospitable man who had helped many of the local people get a start in life.

THE LEONARD'S CONTRACTOR had played in the huge barn as a child. And one day in 1977 when the Leonards were hard at work, an elderly woman came by to watch and told them that she had been born in the house 87 years ago the day before yesterday.

C. R. REYNOLDS had added a new wing to the original six room house, almost doubling the size of the building. Electricity was provided by a generator next to the well house. It was one of the first houses in the area to have indoor plumbing. There was a large yard, a garden, fruit trees, a blacksmith shop, the old slave quarters--all in all a fine summer place for a member of the rich and prominent Reynolds tobacco family.

BUT FOR FIFTEEN YEARS PRIOR to its sale to Doctor and Mrs. Leonard, the gracious old house had been used as a barn. Jane thought it would never be clean enough to live in. "Rats had lived happily here and left their calling cards. Car engines dripping oil had been stored in an upstairs bedroom." The plaster was cracked and there had been a bad leak in one corner of the building.

THE HOUSE HAD BEEN CHECKED OUT and found structurally sound. Termite damage? Looking at the old oak studding, an exterminator had assured the Leonard, that "termites wouldn't bother this place. They'd have to stop and sharpen their teeth too often."

JANE AND CHIP RESERVED the finishing work for themselves and hired a contractor for the rest. The house was stripped to the studs in order to rewire, replumb and provide the necessary support for a sagging second floor. The main entrance hall is the only room with the original walls.



The old house had been used as a barn for 15 years, sheltering rats and car engines dripping oil.

THE LAYOUT NEEDED CHANGING to make the house liveable and comfortable by present-day standards. The original part of Harmony Hill is one room deep with rooms to either side of a central hall. The kitchen and dining room were in a derelict addition at the back of the house. This was removed and a living room and a screen porch added. The fenestration in the new addition facilitates the movement of air during the warm summer months.

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Harmony Hill today. Note the Gothic trefoil in the gable of the original structure and the scroll trim of the porch columns.




Window frames and wooden mantel in the bedroom are painted in Williamsburg Powell-Waller Red against white walls.

IN THE "NEW" WING the Leonards changed the position of an awkwardly located bathroom. Two old fireplaces were bricked up. They lacked dampers and the Leonards had visions of soaring electric bills as the heat disappeared up the chimneys. If stoves are needed the Leonards will unbrick and line the old chimneys with firebrick.

THE NEW FIREPLACES in the living room and dining room are faced with old brick taken from the foundation and the kitchen chimney. The Leonards scouted out the most unusual of the handmade bricks only to have the mason discard them as "pretty uneven old bricks." One hearth brick is actually concave.

AFTER THE FLOORS WERE SANDED and the doors and staircases stripped, Jane went to work putting a tung oil finish on the doors and floors. (Sources for tung oil can be found in the

1979 OHJ Catalog.) She regrets that she had not heard about this wood finish sooner, for the staircases were given a conventional polyurethane finish. Jane used 6 coats of tung oil on her old pine floors. They can be kept clean with ordinary household cleaners such as Spic 'N Span. When scratches appear they are simply retouched with tung oil. Painted woodwork was done in appropriate colors from the Williamsburg line (also in 1979 OHJ Catalog.)

THE LEONARDS feel that restoring Harmony Hill was a "challenge of seeing just what what we could do." Of course, the process had its discouraging moments. But when Chip's uncle, upon seeing the finished house, exclaimed that he hadn't seen the seven wonders of the world, but now he was sure he had seen the eighth--the Leonards believe that sums up their feelings as well. 



The rundown addition containing the bathroom and kitchen were removed from the original part of the house.



In place of the old addition, a new one was constructed containing the living room and a screened-in porch.



No. 4191.

Old-House Intercoms

Buzzers, Beepers, Buttons & Bells

By Tom H. Gerhardt

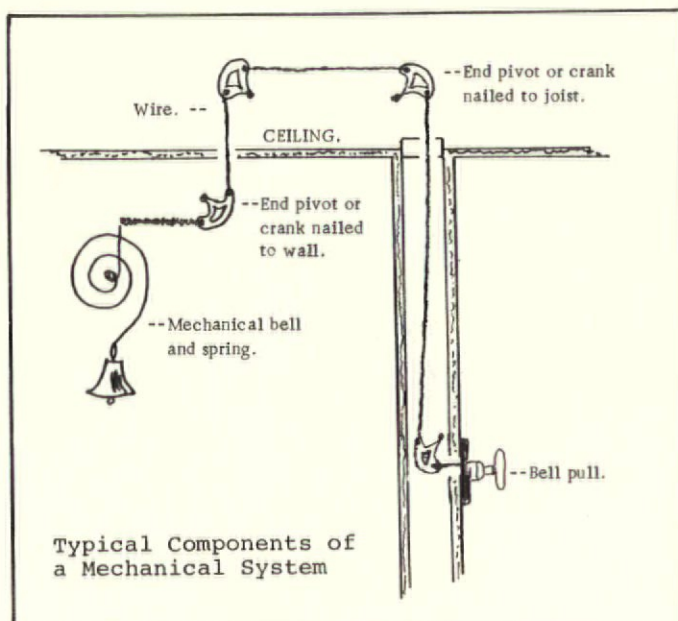


ANTIQUE SIGNALLING and intercommunication systems can puzzle the old-house owner, but repairs and reconstruction are often necessary. The signalling devices were very common in large houses, especially where servants were employed. There were three basic types of systems in use during the last half of the nineteenth century and early twentieth century: Mechanical bell systems, Electric bell systems, and Speaking tubes.

IN SOME VINTAGE HOUSES these systems are still in working order; many others need repairs and are missing parts. Some detective work is usually called for—and so is extensive reconstruction.

Mechanical Bells

MECCHANICAL BELL SYSTEMS were used before the invention of the electric coil. Although they were simple, they often failed because of the wearing of moving parts and the breaking of wires. Basic components included: Bells hung on metal straps that were coiled once or twice; metal pivots or cranks, wire, and bell pulls.



A WHOLE BOARD OF THESE BELLS, signalling from various rooms and entranceways, would have been found in the kitchen or pantry. The bells had different tones to indicate the signal's origin, and they were also usually labelled.

Bell Pull THE WIRES SNAKED through walls, ceilings, and floors, turning corners by way of metal pivots or cranks. Finally the wires were attached to pulls or handles that activated them. Sometimes the wires were attached to a cloth bell-pull hanging from the ceiling—still a familiar decorative item.

IT IS DIFFICULT TO RECONSTRUCT the mechanical bell systems if parts are missing or if the wires are broken or dropped back into the wall. Rewiring is no trouble if the pivots are accessible; but unfortunately, in most cases the job requires reaching into the walls, ceilings and floors for the various pivots.

Electric Bells

SOMEWHAT MORE CONVENIENT and dependable were the electric bell systems installed in residences after the invention of the electric coil. These electric systems were often used even before the invention of the first practical electric light in 1879. Although they are easier to reconstruct than the mechanical bells with their hidden wires and pivots, the electric bells are more complex. Owners should be familiar with the system before attempting repair.

THEY WERE OFTEN INSTALLED less cautiously than regular wiring because of their low voltage and low amperage. This rarely presented a hazard, but it did cause frequent difficulties. In pointing out the opportunities for a good "bellhanger" and the advantages he could offer his community, T. D. Lockwood in his 1882 edition of "Practical Information for Telephonists" made these statements:

"In many cities of moderate size, and even in the small towns and villages, numbers of persons, especially those of a technical and scientific turn of mind, would be much delighted to have their houses fitted with electric bells, or connected with their stables; and in short, to have done neatly, perfectly, and scientifically what the ordinary bell-hanging fiend (who is second among the *bete noirs* of the household only to the ubiquitous plumber) does clumsily, imperfectly, worthlessly.

"...instead of having bell-hanger's joints to come apart when the handle is pulled, and coarse unmusical cow-bells to announce a stranger at the door or to summon Bridget to the presence of her mistress or to notify James to harness the horse, the very acme of quintessence of earthly happiness would be attained if they would only consent to adopt the press button as their swift-footed Mercury; the battery in lieu of the muscular force of the arm; and the electric wire in place of the mechanical wire."

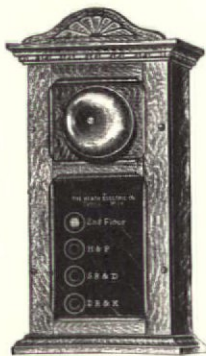
SPECIFICATIONS IN HOUSE PLANS included sections on Bells and Tubes, as in this one for an eleven room house built in 1897-1898:

"Provide and put up in the rear hall two different toned, good bells; one to ring from the front door and one from the side door.

"Provide and put up in kitchen a five-number annunciator with neat cabinet finish, wired with push connections from dining room, library, reception hall, and the two front chambers—all to be properly connected with best insulated copper wires.

"Place a good-toned bell in servant's room to ring from front chamber. Place a combination tube and bell from the front hall to kitchen and laundry—all to be properly connected with the best insulated copper wires provided with a good substantial battery box and key, located in basement."

THE TYPICAL COMPONENTS of the electric bell systems are all mentioned in these specifications and will be explained in the following paragraphs.



THE ANNUNCIATOR was the center of the electric bell system. Usually in the kitchen, pantry or servants' hall, it was needed to avoid confusion when there were more than two locations where pushbuttons would be placed. Even with their distinct tones of sleigh-bells, Swiss bells, cow-bells, etc., many different bells in one house were confusing.

AN ANNUNCIATOR WAS SIMPLY a box with a bell, and indicators that changed when a button was pressed. Each indicator was numbered as to the location of the originating button.

EARLY ANNUNCIATORS WERE ATTRACTIVELY enclosed in oak, walnut, cherry, or mahogany cases. Those manufactured at the turn of the century and before often had carved tops above the bell. Below the bell was a glass window, through

which you'd see the indicators, which were usually gold-painted hands. The background was black so the indicators were very visible. The numbers or names of the originating stations might be lettered on the background.

WHEN THE PUSHBUTTON WAS TOUCHED, the circuit was completed through a solenoid (electric coil) that was behind each indicator, then on through the bell. The indicator would move and the bell would ring to attract a person's attention to the box.

AFTER THE CALL WAS RECEIVED, a lever on the annunciator box was pushed to reset the indicator to the normal position so that it wouldn't be confused with the next call. Later annunciators were equipped with self-restoring indicators.

SOME ANNUNCIATORS had labelled cards that dropped down, instead of needles or arrows as indicators. Some needles moved left or right, to indicate two stations per needle. And annunciators with switches for cutting out certain circuits were available as combination burglar alarm/call systems.



LEADING ANNUNCIATOR COMPANIES were Knapp; Par-tick, Carter & Wilkins; and Ross. Many small manufacturers had local cabinet shops do the woodworking, producing quaint, individual cabinet designs in odd woods. Some annunciators also bore the name of the electrical supply house from which it was purchased. Modern annunciators have metal cases and indicator lights.

THE EARLIEST ELECTRIC POWER SOURCE for annunciators, bells, and buzzers was the battery. The first batteries were glass jars containing zinc and carbon. Sal ammoniac (a liquid) was added to produce current.

THESE BATTERIES OF COURSE needed new components every so often, depending on use, to keep the current flowing. The number of batteries used depended on the equipment and the distance the current had to travel. They were connected in series (from the zinc of one jar to the carbon of another), with more jars used for increased voltage.

DRY BATTERIES WERE ALSO USED and were connected similarly to the wet batteries. Each cell produced 1-1/2 volts and again was connected in series with others (from the outer terminal of one to the center terminal of the other) to produce higher voltage. A very common setup had four cells producing six volts.

AROUND WORLD WAR I, doorbell transformers became very popular. They would step down the normal house current to 6-24 volts. These could be attached to a lighting circuit in the house and then connected to the bell wiring. Experimentation was necessary to find the voltage which rang the annunciator and bells properly at the desired volume. Generally the doorbell transformer took more voltage because

it produced alternating current. The batteries produced direct current that flowed in one direction only and would operate the signals properly at a lower voltage.

IN SYSTEMS WITH TWO BELLS and an annunciator drop all operating at once, 16 volts or more may be required. When bells are operated between buildings the higher voltage may also be required. A 24-volt transformer, which is usual for chimes, is the safe limit on voltage for bells and annunciators. If the system does not operate on this, something else is wrong.

ALTHOUGH THESE TRANSFORMERS run continuously, they draw maximum current only when the signal is being operated. The voltage and amperage are so low that there is little danger of shock; however, the wires must still be properly insulated to prevent shorts. A short will burn out doorbell transformers, since they are not protected by circuit breakers.



EXTERIOR AND INTERIOR PUSHBUTTONS were often very fancy and made of bronze, brass, or wood. The buttons themselves were porcelain or pearl. Interior pushbuttons were placed near the fireplaces, doors, or lightswitches (if the house was wired for electricity.)

OCCASIONALLY THE DINING-ROOM pushbutton was on the wall, but more often it was conveniently placed on the floor underneath the table. A person seated at the table could push it with her foot and summon a servant. There was also a combination pushbutton that could either be stepped on or have a plug inserted in it with a cord to bring the button to the tabletop.

MANY TIMES A BUTTON COMBINED with a speaking-tube; one pressed the button to summon the person at the other end of the tube. Or alternatively, as the lid was lifted on the tube, it would automatically ring an annunciator or bell at the other end.

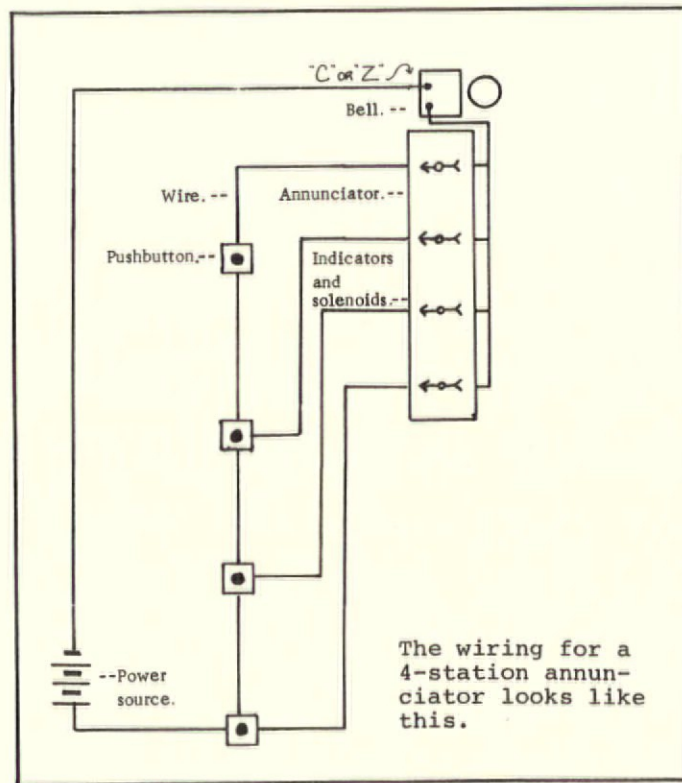
WIRE USED IN A BELL SYSTEM was 18-gauge insulated wire, appropriately called "annunciator wire." It was a single wire that had paraffined cotton thread wrapped around it for insulation. Different colors of cotton served as a code to avoid wiring confusion in complicated systems. The single wires were stapled separately to the framing of the house with uninsulated staples. By attaching the wires separately, short circuits were avoided that might have occurred if the bare staple had cut through the insulation. This also prevented shorts that commonly came about

when animals chewed on the cotton. Heavier waterproof wire was used for underground circuits between buildings.

ANNUNCIATOR OR BELL WIRE with plastic insulation can be used in modern repairs. Two, three, four or more separate wires are contained in sheathed cables. The sheathing further protects the wiring, though sometimes there are fewer or more wires than are needed at a particular point in the system. This doesn't happen when separate wires are run in the numbers and lengths necessary.

NORMALLY, ONE TERMINAL ON EACH of the pushbuttons is wired directly to one terminal on the transformer. This means that a common wire (preferably of one color) from the transformer is run throughout the house and branches to each pushbutton. Connections are soldered and taped, and insulated staples should be used in attaching the wires. Return wires are run back separately from the other terminal of each pushbutton to the proper annunciator terminal. The terminals that lead to the solenoids for the indicators are usually numbered, but sometimes have to be rung out to determine what button should be connected to which terminal to give the proper indication. (See diagram.)

ONE TERMINAL ON THE ANNUNCIATOR is usually marked "C" or "Z". This one leads from the bell and should be wired back to the other terminal on the doorbell transformer to complete the circuit. (This is opposite the one that the pushbuttons are connected with in common.) Whenever an annunciator has an electric reset device to restore the indicators, it also has a terminal to which must be attached a wire leading to the terminal on the doorbell transformer where the common line to the pushbuttons is attached. (Not shown on diagram.)



Speaking Tubes


THE "BELL-HANGER" OR ELECTRICIAN also constructed the speaking tubes. Speaking tubes were simply tin pipes of 1-inch to 1-1/2-inch diameter soldered together and run through the walls, opening into certain rooms or entranceways, or going to other buildings. They transmitted conversation very well. They were so simple that little could go wrong, unless they became clogged or fell apart in the wall.

THE SPEAKING TUBE ended with a porcelain mouthpiece. The tubes generally emerged near light-switches, pushbuttons, or under the annunciator itself. Some mouthpieces had a spring door and a whistle inside, so that blowing into the tube from one room attracted the attention of the person answering the call in another room. As mentioned previously, often the mouthpiece was connected with the electric bell system.



Speaking Tube Whistle
& Porcelain Mouthpiece

A VARIATION PROVIDED A FLEXIBLE HOSE with the mouthpiece attached, so that one could pick up the mouthpiece. Speaking tubes worked well between buildings. Iron pipe was used underground, sloped to a drip and petcock to drain it. Moisture from condensation was thus released to prevent blockage.

SPEAKING TUBE SYSTEMS that have been dismantled can be rebuilt (with salvaged mouthpieces) by using any kind of pipe 1-inch or over in diameter. The joints do not have to be watertight—unless the system is underground or outdoors—but the pieces should be secured well enough that they won't vibrate and fall apart. 

TOM GERHARDT is First Vice-President of the Historical Association of Greater Cape Girardeau, Missouri, as well as our Midwest Editor.

COMING NEXT MONTH: Troubleshooting--testing the components of a non-working electric bell system.

Licking Tarnish with Tung Oil

By Patricia Poore

THE EXTERIOR DOOR HARDWARE on our brownstone is brass: knobs, escutcheons, and kickplates. When we arrived in Brooklyn the hardware was thick with paint. Stripping metal is easy—we used chemical stripper, but even a homely hot vinegar bath works. The hard part's protecting the metal so it doesn't need daily polishing.

WE WENT THE CONVENTIONAL spray-lacquer route first. Carefully following the directions on the can, we applied the lacquer and replaced the hardware. Since the doors had recently been restored and painted deep maroon, it made a pretty picture. Two days later it rained.

AFTER THE STORM the brass blazed with color. Under the lacquer there were garish highlights of purple and green. There was some indigo, too. Never had I seen such sudden and complete tarnishing. We were demoralized.

THEN I THOUGHT of tung oil. We had nothing to lose so we got out our March 1977 copy of "The Old-House Journal" and turned to "Why I Swear By Tung Oil." This article was written by refinishing expert Frank Broadnax, and he said tung oil protects metal. We took his advice:


● WE BROUGHT THE BRASS HARDWARE upstairs and removed the shamed lacquer with 4-0 steel wool

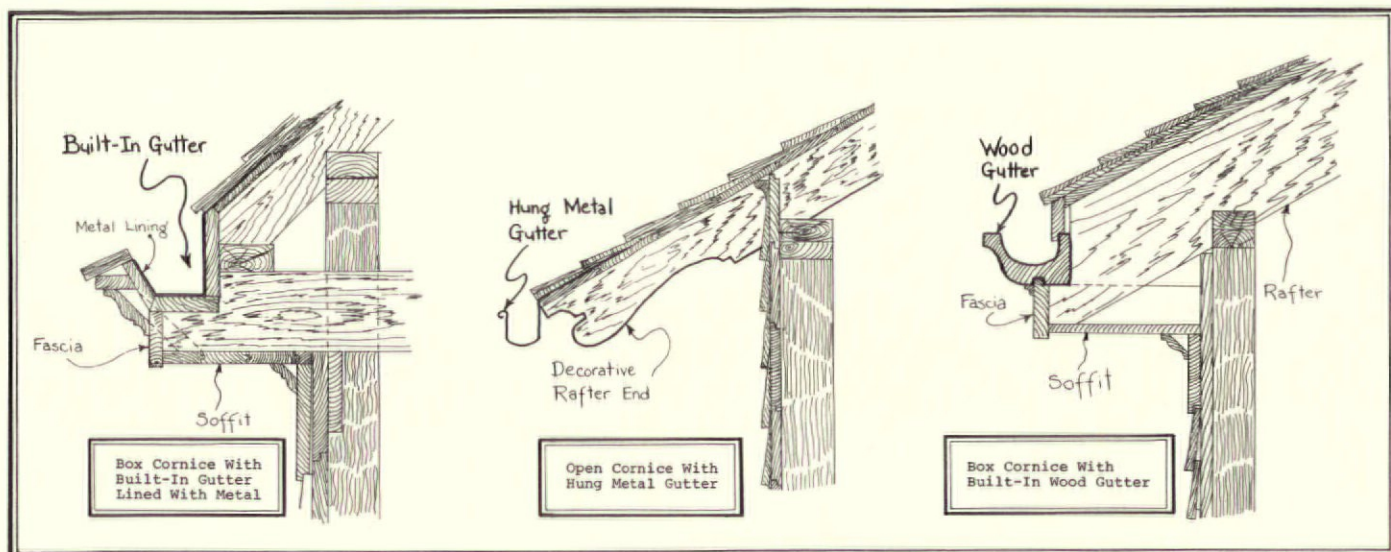
dipped in lacquer-thinner, followed by a quick wipe with brass polish. This provided a mirror-finish that's optional for exterior hardware. If the pieces aren't scratched, soaking in Mr. Clean is enough to remove the lacquer. On the other hand, if your brass is scratched and pitted, you might want to rub it with WET 600-grit sandpaper (silicon carbide only-- the black paper) followed by steel wool and polish.

● IF YOU'VE USED detergent or polish, do a final rinse with lacquer-thinner or mineral spirits to remove residue. We wore plastic gloves from this point. No fingerprints allowed, as they interfere with the drying of the oil.

● WE PUT THE PIECES IN THE OVEN for 20 minutes at 150-200°F.

● NEXT WE APPLIED tung oil to the brass with a soft cotton rag. (Very small pieces can be dipped.) Frank Broadnax wrote: "Apply a thorough coat, let it set for 15 min., then buff off excess oil with a soft cloth. Let dry at least four hours." But finding exactly the right time for buffing was tricky, and if we waited too long there was a problem with tackiness and lint. So instead we did a constant light rubbing with an oil-soaked rag, back and forth and in figure-8s, not letting the cloth stop or the oil get tacky. We renewed the oil on the rag so it was really like putting on many thin coats. We avoided the setting and buffing altogether.

THE BEAUTIFUL BRASS hardware went back up on the doors. Four months later and after plenty of bad weather, it still looks good. Now we swear by tung oil, too. 



(Gutters—Cont'd. from page 109)

gutters have a classic beauty, and their removal from some historic houses has caused great harm to their appearance.

Disadvantages

BOX CORNICES look good—but they are a horror when it comes to maintenance. They do not dry out as quickly as open cornices, and thus are more prone to rot. This is true whether they have built-in or hung gutters. The problem is compounded with the built-in gutter. As can be seen in the diagrams above, if a built-in gutter starts to leak, it will pour water right into the cornice...and often down into the main structure.

THUS, the box cornice with a built-in gutter requires constant monitoring—at the minimum once a year—to make sure that all the seams in the gutter are still water-tight. Metal linings are especially prone to failure at the seams because of constant expansion and contraction. Ice build-up can also cause serious damage to liners. A program of regular re-soldering of joints is a necessary part of having a built-in gutter. And for most of us, this type of soldering is not a do-it-yourself job; it's a task for a professional metal worker.

IT'S BECAUSE of this heavy maintenance requirement that many built-in gutters have been decked over and replaced with hung gutters.

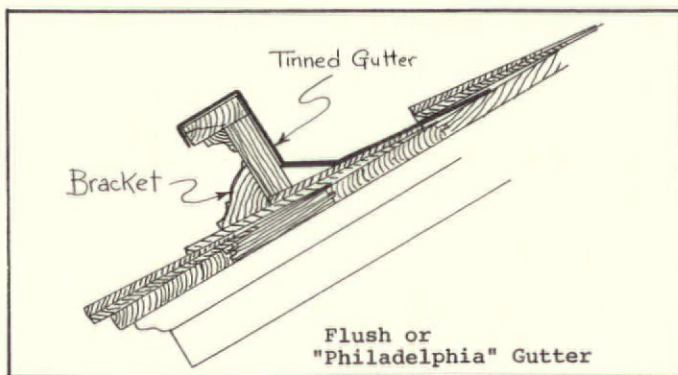
Choices

EVEN WITH all of the above drawbacks, if an old house currently has a built-in gutter, all reasonable steps should be taken to retain it...because it is part of the original architecture. The owner's first responsibility, however, is to the overall good of the structure. And if a leaking

built-in gutter is causing serious damage and it is prohibitively expensive to totally replace it, then an alternative gutter system is called for.

FOR MUSEUM HOUSES and historically important structures, extraordinary steps are warranted to save or restore existing built-in gutters. And for ANY house with built-in gutters, the following maintenance steps are critical:

- Keep gutters free of debris. Trash can cause two types of damage: (1) By clogging leaders, it can cause water overflow and ice build-up; (2) Any acidic elements at the bottom of a damp trash pile can eat away at the metal liner.
- Inspect joints frequently. If any cracks are found, they must be soldered immediately or patched in some other way (more on this later). As noted earlier, soldering of this type normally would be done by a skilled roofer or metalsmith. However, a knowledgeable homeowner with the right equipment could also do this work.
- Any gutter liners made of tin, galvanized orterne metal should be kept painted.
- Install soffit ventilators in the cornice. This helps the cornice dry out and wards off



rot after the inevitable periodic leaks of water into the woodwork. Ventilators have a drawback, of course, in that by increasing air flow inside the cornice they also add to heat loss in the winter. This can be minimized by proper insulation of attic spaces (see OHJ, Sept. 1976, pg. 9).

● Avoid ice build-up. Ice in gutters puts a tremendous strain on the seams of the metal liner. Also, ice dams can cause water back-up and overflowing that will direct water into the cornice. Thermostatically controlled electrical heating cables are probably the simplest way to keep ice out of gutters. These cables should be available through large hardware stores.

Patching Deteriorated Liners

WHEN THE METAL LINING in a gutter starts to fail, you face the "repair or replace" decision. No material lasts forever, and at some point it makes more sense to replace the entire liner rather than attempting to patch it piecemeal. The odds are that if it has failed in one place, the material may be getting ready to fail in another spot. Repair is usually the most economical solution in the short run—as long as the owner is willing to devote the inspection time required to ensure that the liner doesn't fail in a new place. You can't make a patch and walk away from the task confident that you've taken care of the problem for all time.

WHEN DEALING with a metal liner, a metal patch is the most durable solution. However, patches made of fabric embedded in roofing cement may be more convenient for owners who aren't handy with soldering equipment. See OHJ, Sept. 1979, pg. 101, for details on patching metal gutters.

The "Black Goop" Solution

IF YOU OPT for patches of fabric and roofing cement, be aware of two points: (1) Such patches should be checked annually to be sure they are still sound; (2) Don't get carried away in the use of roofing compound. Some people figure that if a little roofing compound is good, a lot is a better.

THERE'S A DANGER in this "Black Goop" solution. It is always possible for water to get under a membrane of roofing cement. We have reports from readers of wooden gutters totally rotting out under a layer of roofing compound. If water does penetrate through a crack in the roofing compound, the moisture will be held in close contact with the wood.

SIMILARLY, WITH METAL LININGS, coating the entire gutter with roofing cement is not desirable. Some of these materials are acidic and can corrode metal. Also, any moisture that seeps in will be held in contact with the metal. This is especially bad with galvanized and terne metal.



The Loop-Harrison house (1872) in Port Sanilac, Mich., has built-in gutters in the cornice at the base of the handsome Mansard roof. While giving a clean uncluttered look to the front of the house, such gutters often leak water into the structure.

BECAUSE OF POSSIBLE acidity problems, roofing compound should never be used in direct contact with bare metal. If roofing compound is being used for a patch, the metal should first be coated with a good quality metal primer, such as Rust-Oleum.

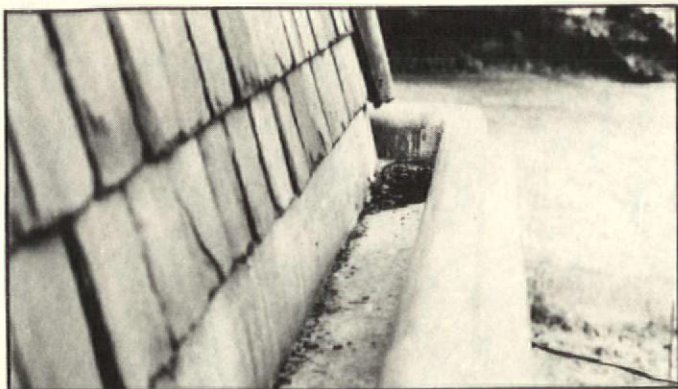
THERE IS ALSO an industrial product, called "Miracle Seal," that has been used with success in sealing leaks in metal gutters, flashing, and the like. It is a pliable, self-adhesive rubberlike material that will stick to any clean, dry surface. It comes on a paper backing which allows it to be peeled off and slapped right in place—without getting black goo all over everything. Because it is an industrial material, however, it isn't available in small quantities (see box below). It might be possible to split a carton with a neighbor.

A Gutter Sealant

"MIRACLE SEAL," a self-adhesive rubberlike material that can be used to seal leaks in metal gutters, comes in rolls 2½-in. and 8-in. wide. The 8-in. material comes 25 ft. per roll; 3 rolls per carton. Price is \$65.91 per carton (No. 7-2410).

The narrow 2½-in. material comes in 25 ft. rolls, 4 rolls per carton. Price is \$46.44 per carton (No. 7-2420). Prices include shipping and handling.

Order from: Revere Chemical Corp.,
30875 Carter St., Solon, OH 44139.
Tel. (216) 248-0606.



This built-in gutter at the base of a slate Mansard roof is lined with lead-coated copper for maximum durability.

THERE ARE ALSO a number of gutter sealants that are available in hardware stores under a variety of trade names, such as "Patch Magic" (by Magic American Chemical Corp., Cleveland, OH) and "Flashband" (by Evode, Inc., Somerdale, N.J.). Open seams can sometimes be sealed with a high-quality elastomeric caulk/sealant such as Geocel Water Seal 100 (by Geocel, Ltd., Elkhart, Ind.).

IT SHOULD BE RE-EMPHASIZED that any of these "soft" patches should not be regarded as permanent. They will deteriorate upon exposure to weather, and need to be inspected at regular intervals. And at some point, there is no choice but to replace a much-patched metal liner.

Rebuilding Gutters

REBUILDING A ROTTED-OUT gutter system and/or cornice is an expensive proposition, but in certain cases the house may warrant the investment. This is a major undertaking—beyond the scope of this article—but the following should be noted as guidelines for any rebuilding effort:

- Carefully document the system as originally constructed with photos and sketches so that it can be duplicated.
- Re-use as much of the original material as can be reasonably salvaged.
- Treat old and new material heavily with wood preservatives with water repellents added. Commercial products like "Wood Life" fit this specification, but it contains pentachlorophenol, which is a poison that can be absorbed through the skin. USE WITH CARE!

IN ADDITION, use pressure-treated wood where possible. Prime all wood on all surfaces before assembly. (This provides greater dimensional stability to the wood and helps prevent rot.) Apply two finish coats of paint on exposed surfaces.

- Install rosin paper under metal gutter lining to help prevent condensation on the underside of the metal in cold weather.

● Change drainage patterns if necessary to improve the rate of water run-off.

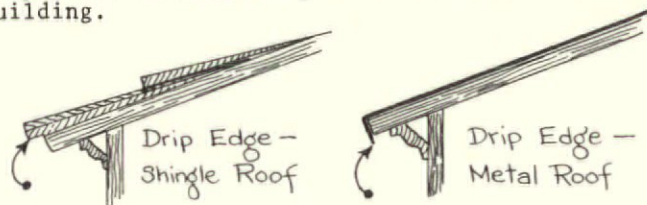
● Install adequate soffit ventilation.

● Consider using the most durable metal for the gutter lining, i.e., lead-coated copper.

A DETAILED ACCOUNT of the rebuilding of a built-in gutter system is contained in the booklet "The Morse-Libby Mansion" written by Morgan Phillips of the Society for the Preservation of New England Antiquities. To obtain a copy of "The Morse-Libby Mansion," send \$2.40 to: Supt. of Documents, Government Printing Office, Washington, D.C. 20402 and ask for #024-005-00699-1.

Covering Built-In Gutters

SINCE THE RECONSTRUCTION of a built-in gutter is such a major undertaking, homeowners often opt for a less expensive alternative. Most often, the choice is to abandon the built-in gutter entirely. This can be done by decking over the old built-in systems and doing away with gutters altogether. All that you need is a drip edge at the top of the cornice or eaves to keep water from running down the side of the building.




THIS SOLUTION RETAINS the visual integrity of the building—and relieves some of the maintenance anxiety that is inherent with a built-in gutter. However, since the water is not carried to a leader, it often goes places you'd rather it didn't—such as down the side of the house in a high wind, or into your face as you come out the front door.

YOU MUST ALSO be sure that the closing off of the old gutter is tight and complete. Readers have reported cases where the seams on the gutter covering opened up, and water started pouring back into the old abandoned gutter system. With the leader pipe hole now blocked off, you can imagine the disaster that caused!

THE MORAL IS that even if you cover over a gutter, you had better periodically check the condition of the new roofing or the problem will come back to haunt you.

NEXT IN YOUR RANGE OF OPTIONS is to cover the built-in gutter and install a hung gutter. This will direct the water where you want it to go...but a hung gutter can look quite ugly on a fine building. A great deal depends on the care taken with the installation.

NEXT MONTH, we'll look at hung gutters in greater detail...and examine a hybrid gutter system that combines features of both the built-in and hung gutter systems. 

Restorer's Notebook

Sawdust Absorbs Messy Goo

THIS EARTHY BUT EFFECTIVE method for removing old finishes from wood often eliminates the use of steel-wool.

PAINT ON YOUR FAVORITE stripping chemical and sprinkle a generous amount of sawdust over the wet surface. (Sawdust is free if there's sawmill nearby.) Let it soak as usual, then rub vigorously with a burlap sack to remove the stripper, sawdust, and old finish. The sawdust absorbs the messy goo and is slightly abrasive, while the burlap acts as a buffing pad.

THE SAWDUST CAN BE REUSED, and when you're all done, simply sweep it up. Usually sanding isn't required.

Helen E. Conrath
Zanesville, Ohio

Paint Clean-Up

WHILE DOING AN EXTERIOR PAINT JOB in last summer's heat, I found that the inescapable combination of oil-paint, turpentine, and lacquer thinner was causing a very unpleasant skin reaction.

DESPERATELY NEEDING A BETTER METHOD of clean-up, I discovered that simple petroleum jelly and a little rubbing with tissue will take paint off skin. It works most thoroughly on places you'd least want to use harsh thinners -- like the face or forearms. Only the roughest parts of my hands needed to be washed with turpentine.

APPLYING VASELINE or hand-lotion before painting makes cleaning up even easier. You don't have to "grease up"; just a light coat will keep the paint from being absorbed by your skin.

EVEN IF YOU DON'T HAVE AN IMMEDIATE REACTION to paint removers, the use of harsh substances on your skin is objectionable. Over the years a restorer might come in contact with all kinds of thinners, paint stripper, wood preservatives, old lead paint, and so on. We should always take the opportunity to cut down on the number of harsh chemicals we inhale or apply.

Pat O'Donnell
Allendale, N.J.

Got Any Tips?

Do you have any hints or short cuts that might help other old-house owners? We'll pay \$15 for any short how-to items that are used in this "Restorer's Notebook" column. Send your hints to: Notebook Editor, The Old-House Journal, 69A Seventh Avenue, Brooklyn, N.Y. 11217.

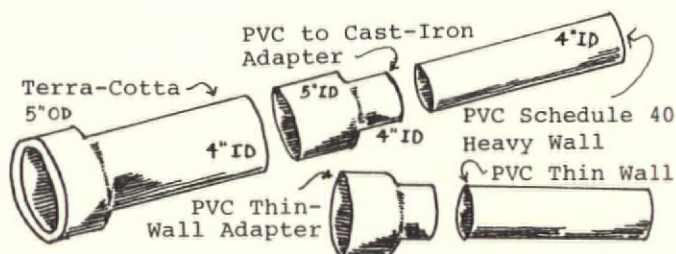
Coupling Terra-Cotta To PVC Pipe

ONE OF OUR FIRST restoration projects reflected an essential step right off the Old-House Journal maintenance list—preventing water damage. The task involved in-ground drainage systems that carry rainwater from the various downspouts.

WE REPAIRED both a middle-of-the-run and an extension of the existing terra-cotta system. The failing parts at mid-point of a homemade multiple connection of terra-cotta pipe could not be replaced with terra-cotta, because the pieces are preformed and would match neither the homemade connections nor the existing locations of downspouts. Also, terra-cotta is inflexible, so that even if the pieces had matched there would be no play to allow installation of the new pieces in the middle of a run.

WE FOUND A SOLUTION that saved both labor and the cost of new pipe: You can use PVC Schedule 40 four-inch pipe in replacing long runs. Most plumbers would say an adaption of PVC to terra-cotta is impossible. They are wrong.

THE ANSWER is a cast iron-to-PVC adapter 5-in. to 4-in. which will fit over terra-cotta that's reasonably round. (In some cases filing or sanding the inside surface of the PVC is necessary to correct out-of-round situations.)



THE ADAPTER will go on the terra-cotta very snugly—you may even find it requires tapping with a hammer. For a watertight seal, silicone caulk should be applied afterwards.

IF YOU NEED TO EXTEND a run of terra-cotta with PVC but have the bell end of terra-cotta to contend with: Secure one more 2-ft. piece of terra-cotta, and cut off the bell with a masonry circular saw or carbide hacksaw blade, then continue on with the PVC as above.

THERE IS ALSO a 6-in. to 4-in. thin-wall adapter made that requires oakum and concrete to seal; however, many local codes won't allow thin-wall PVC.

Jack W. Heffelfinger
Reading, Pennsylvania

Products For The Old House

Supplies For The Restorer



HERE IS A VALUABLE SOURCE for products needed in old-house restoration. There are over 700 items contained in the Renovator's Supply catalog including: Old-style hardware, lighting fixtures, plumbing supplies, and decorative items.

FOR INSTANCE, in the "Plumbing" category, there are Victorian style faucets, plain brass towel bars (single, double and triple), a bathtub drain and overflow, soap dishes and a tissue holder.

MANY ITEMS IN THE CATALOG are hard to locate--a Dutch door quadrant, pyramid-head black screws, or a spring-loaded sash bolt. Lighting fixtures include Early American and Victorian styles and chandeliers, sconces and lamps are represented.

A VERY SPECIAL decorative item offered is a solid brass ornate French folding firescreen at a very moderate price, and don't miss the handsome mechanical doorbells.

WHEN FILLING LARGE orders for contractors or architects, The Renovator's Supply will also locate hard-to-find items not listed in the catalog.

TO ORDER THE CATALOG, send \$2.00 to: The Renovator's Supply, 71A Northfield Road, Millers Falls, MA 01349. Telephone: (413) 659-3542.

A New Source For Metal Ceilings

ALTHOUGH METAL CEILINGS have many advantages--they are fairly inexpensive and create an old-fashioned decorative appearance--their use has been somewhat limited for two reasons. The first is that only a handful of patterns has been available. The second is that only the ceiling filler and narrow cornice has been available. In its heyday, a metal ceiling catalog contained patterns for side walls, wainscoting, and ceiling centers.



Gothic Side Wall Plate.

THAT IS WHY THIS NEW source for metal ceiling is so exciting. The W. F. Norman Corporation is again manufacturing their 81-year old product line. It contains entire ceiling patterns (borders, centers, fillers), side walls, border plates, foot molds and many more. From this large choice, hundreds of designs can be created and a large or small area can be covered in an architecturally appropriate manner.

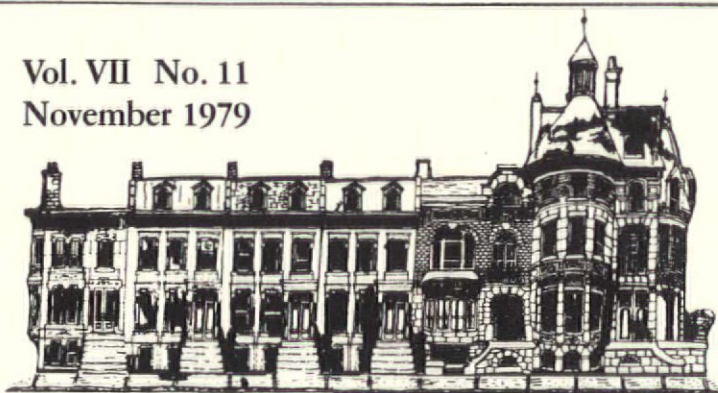
THE ARCHITECTURAL STYLES include: Greek, Colonial (from simple to formal) Rococo, Empire, Gothic and Oriental.

W.F. NORMAN is presently offering a reprint of their 1909 catalog. Nearly all of the items will again be produced; the exceptions are marked. Currently there is a limited stock, but they will go into full production at the beginning of the year. Small orders for homeowners will be accepted. W.F. Norman is also looking for distributors for their new/old product line.

TO ORDER THE CATALOG, send \$3.00 and ask for Ceiling Catalogue #350, to: The W. F. Norman Corp., P. O. Box 323-J, Nevada, Missouri 64772.

THE OLD-HOUSE JOURNAL

Vol. VII No. 11
November 1979



Restoration And Maintenance Techniques For The Antique House

The Craftsman House

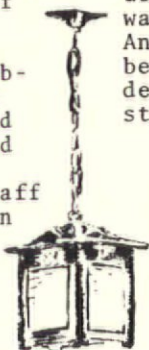


By Carolyn Flaherty

THE CRAFTSMAN HOUSE expressed the principles of the Arts and Crafts Movement. More specifically, the true Craftsman house was built to conform to the philosophy espoused by Gustav Stickley, the most important voice of the Arts and Crafts Movement in America.

IN HIS MONTHLY MAGAZINE, *The Craftsman*, (published from 1901-1916) he presented designs for cottages, bungalows, suburban houses and city dwellings, variations of farmhouses and log cabins, as well as California Mission style houses. They were designed by the staff of *The Craftsman* and what they had in common was that they were built according to the tenets of the Craftsman philosophy.

TWO BASIC PRINCIPLES of this philosophy can be summed up as follows:



In This Issue

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Coming Next Month

GOLD-LEAF HOUSE NUMBERS

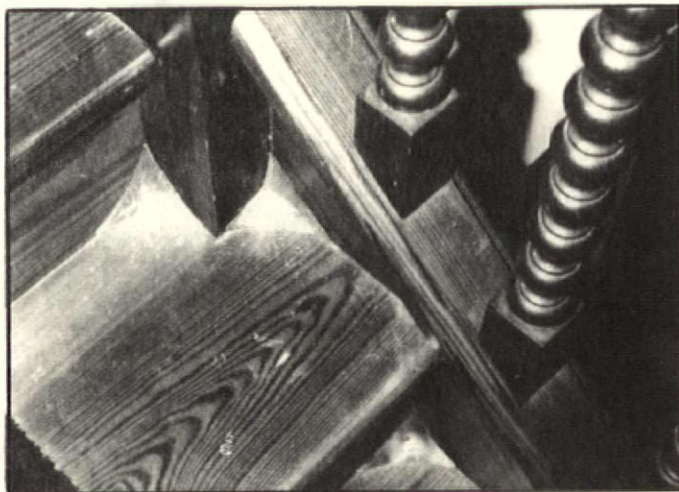
1- To express the structure honestly. The structural elements became the decoration. (The whole Arts and Crafts Movement was, after all, a reaction to the elaborate decoration of the late 19th century.)

2- The "honest" use of materials. Stickley thought that simple, rustic (or crude) building materials (fieldstone, hand-split shakes, or even cement) used in a state that was not highly finished, best expressed the principle of honesty.

HOWEVER, the name "Craftsman" became widely misused and the simple, relatively inexpensive look of the houses published in the magazine was widely imitated--and sometimes poorly. An imitation Craftsman house might have timbers pasted on in the same manner that ornate decoration was applied in the late Victorian styles.

THE SIMPLE, RUSTIC COTTAGES and faintly Tudor stone-and-timber house along with the ubiquitous bungalows from the pages of *The Craftsman* were the kind of small houses that were built in America during the first decades of the 20th century.

(Cont'd on page 123)



Source For Dust Protectors?

To The Editor:

WOULD ANY OF your readers know of a source for these staircase corner brass dust protectors? They were designed to keep dust from getting trapped in the corners on stair treads. I believe they date from the Victorian era—and were popular in many parts of the South.

WE NEED some replacements and so far have been unable to locate any. We'd greatly appreciate some help. Thanks!

Mark Hordes
Houston, Tex.

Beware Enamelac On Exterior Shutters

To The Editor:

IWOULD LIKE to add one comment to the discussion of peeling paint on exterior shutters that have been stripped by dipping in a chemical bath (OHJ August 1979, pg. 94).

ONE OF THE READERS suggested Enamelac as a sealer to isolate the finish coats of paint from any chemical residue left in the wood. We in fact used Enamelac on our shutters—the ones that were the subject of discussion in the case history in your August issue. And we experienced massive paint failure!

ON ANOTHER OCCASION, we had 100% paint failure within 3 months on all shutters on an exterior job where we had used Enamelac as a sealer.

ENAMELAC AND BINS are essentially pigmented shellac sealers. In talking with painting contractors and in independent research, I have come to the conclusion that shellac-based materials should never be used outside. Experienced painting contractors dislike using Enamelac to spot-seal knots on exterior trim, for

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example, because it will attract water even when protected by a finish coat of paint—and the paint is likely to blister in this spot. Instead, they use aluminum paint to spot-seal knots.

ENAMELAC is a great product for interior use on new soft woods, knots and the like. But I will never again use it for exterior work—regardless of what it says on the label.

Sandra Bergmann
Richard Bergmann Architects
New Canaan, Conn.

A Finish For Slate

To The Editor:

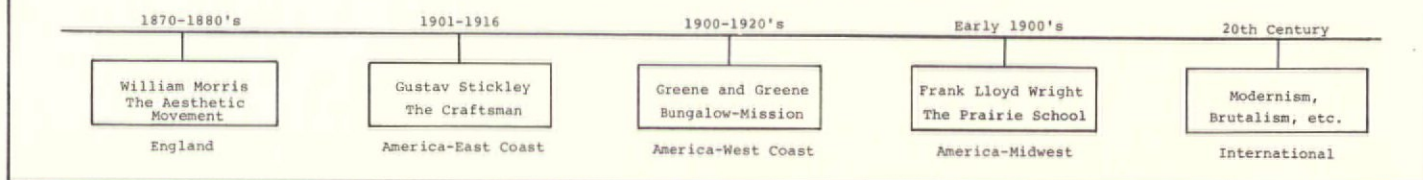
IRECENTLY PURCHASED an old slate sink that bears a metal tag stating it was made by the Munson Slate Co. The slate is in good condition, but bears some scratches from use and abuse.

I LOOKED IN VAIN for any "official" instructions on how to revive the old slate. I ended up just cleaning it as best I could with soap and water, then wiping on a coating of mineral oil. The mineral oil was then wiped off with a soft rag so that only the thinnest possible film remained on the stone.

THE OIL removed most of the discoloration and acts as a good sealer. I renew the coating about every two months. The scratches remain, but they are much less noticeable. I am quite happy with the results, but am still wondering if there is another procedure I could have used. Any feedback from other readers would be interesting. For example, can the scratches in slate be sanded out as they can with marble?

Karen Cooper
Hartford, Conn.

Leaders of The Arts And Crafts Movement



(Craftsman--Cont'd from page 121)

Gustav Stickley

GUSTAV STICKLEY began as a late Victorian furniture manufacturer and eventually ruled over a Craftsman empire. In addition to his Craftsman magazine, he opened a 12-storey building in Manhattan in 1913. The Craftsman store sold every conceivable item for home decoration and maintenance--rugs, draperies, lighting fixtures (all Craftsman designed) as well as building materials, nursery equipment, paints, etc.

THE MAGAZINE OFFICES (originally in Syracuse) occupied the 10th floor; club-rooms, library and lecture hall filled the 11th and The Craftsman restaurant was on the top floor. It featured food grown on Stickley's Craftsman farms in New Jersey; served by Japanese waiters in a setting of Craftsman furniture, textiles, lighting and even place settings.

THE CRAFTSMAN BUILDING was headquarters for over 50 representatives across the country. As a publisher, architect, furniture and interior designer, store, mill and factory owner, Stickley was able to spread his doctrine of good workmanship and simplicity to a vast audience.

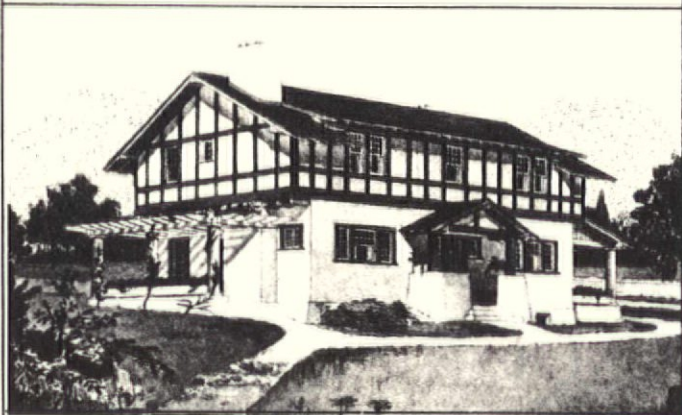
UNFORTUNATELY, Stickley went bankrupt in 1916. He had most likely over-extended himself and he also blamed his own bad business practices. But the effect of the Colonial Revival and the interest in "colonial" decoration may have had as much to do with the demise of The Craftsman.

Bungalow-Mission-Craftsman

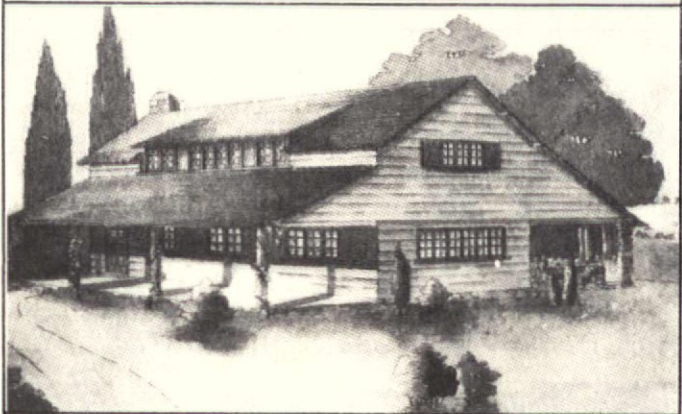
ALTHOUGH Craftsman houses are not all bungalows, there is a good reason for this popular misconception. Greene and Greene, two gifted architects in Pasadena (already under the Arts and Crafts spell) were greatly influenced by The Craftsman. They even furnished one of their houses with pieces entirely selected from a 1901 issue of The Craftsman.

THEIR BUNGALOW STYLE incorporated Craftsman principles with features adapted to the western climate--low pitched roofs, broad overhanging eaves, wide banks of windows. Stickley began publishing their designs in 1907. He also presented many concrete houses in the California Mission mode. In 1912 (at this point, ironically, the Greenes were moving away from the bungalow) he featured 13 pages of the Greene and Greene bungalow style. This publicity, at the height of Stickley's influence, forever blurred the distinctions of the Bungalow-Mission-Craftsman styles. It did, however, bring the bungalow from California to be accepted as a popular style all over the country.

Following are three designs for houses from The Craftsman magazine with the descriptions given them at the time of publication.



Cement house showing lavish use of half-timber as a decoration. 1909.



A roomy, inviting farmhouse, designed for pleasant home life in the country. 1908.



A comfortable and convenient house for the suburbs or the country. 1907.

The Craftsman Interior

A CRAFTSMAN HOUSE is more easily recognized by its interior than its exterior. It featured a liberal use of wood with many structural elements: Beamed ceilings, wainscoting, fireside inglenooks, window seats, and often built-in furnishings (settles, desks, even a piano.) Staircases and landings were sometimes the prominent feature in a room. The object was to have each room so interesting in itself that it seemed complete before a single piece of furniture or decorative accessory was added to it.

Wall Treatments

TYPICALLY, wall spaces were divided by wainscoting, stencilled panel, and frieze. The Craftsman room depended on the richness of wood for its color scheme. Indeed, after the wainscoting, bookcases, and (in dining rooms) the plate rail, there was little wall space left to decorate. The wall itself was generally left in a rough plaster state and painted (or pigment added to the plaster) in warm earth tones--mustard, tan, soft gold or sage green. The rough texture was intended to radiate color rather than reflect it as from a smooth surface. The color was deliberately uneven so that "there is a chance for the sparkle and play of light."

Stencilling

THE STENCILLED FRIEZE is a characteristic feature of the Craftsman room and a very attractive one. The stencil patterns are sparse and quite sophisticated. They are, unfortunately, not easy to imitate. But the Craftsman home-owner could conceivably duplicate this feature with the aid of the Dover book mentioned on the following page. A stencil pattern can be taken from ones shown on the walls of the various rooms or, just as easily from the many needlework patterns shown. The stencilled pattern was often repeated around the edge of a rug (rugs were usually solid-colored, with a border) and this is an op-



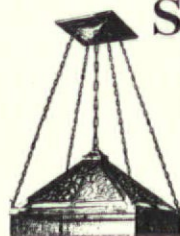
Living room with split boulder fireplace, nook with built-in bookcases and desk, division of wall spaces by wainscoting, stencilled panels and frieze, with casement windows set high in the wall.

portunity to add a Craftsman effect by painting and stencilling a floor area.

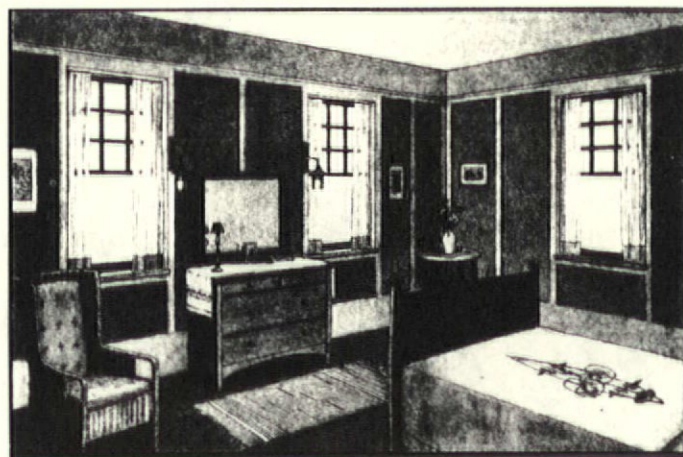
Fabric

SOFT LEATHER was by far the most often used upholstery material with pillows in leather, sheepskin, or fabric. The most popular colors for leather were brown, biscuit, yellow, gray, green and fawn. Silks, tapestries and all delicate fabrics were definitely out--and those that possessed the qualities of sturdiness and durability were used for all other upholstery, curtains and table coverings. The favored fabrics were woven of flax and left in their natural state or given a color that resembled a "nature hue." These included roughly woven, dull-finished silk, linen and canvas. Nets and crepes of the same general character were used for curtains--hung simply from a wooden pole. Fabric was not monotonous, however, as they were applied or embroidered in bold and simple designs--again reflecting nature: Pine cones, ginkgo leaves, poppies. Craftsman needlework is as interesting a subject for study as any of the other decorative arts.

Metalwork



STICKLEY THOUGHT IT of the utmost importance that the metalwork in a Craftsman interior should be of a fitting character. Therefore, he designed lighting fixtures, fireplace accessories and door hardware. All were designed and finished to avoid a highly-polished or machine-made look. He encouraged his readers to set up home workshops to produce their own metalwork and so few designs were complex. Rather an exception is the electrolier shown here, in fumed oak and hammered copper. Most lighting fixtures were lanterns attached to the wall or hung with chains. A favored Craftsman way to light a dining room was to use many lanterns hanging from the beam above the dining table.



Bedroom showing a typical Craftsman scheme for decorating and furnishing a sleeping room. Note the division of wall spaces into panels by strips of wood. The panels are covered with Japanese grass cloth.



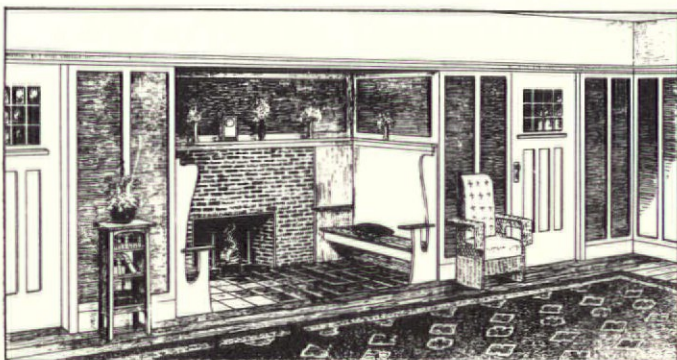
Craftsman Furniture

STICKLEY'S FUNCTIONAL, sturdy furniture was enormously popular--the first truly American style to become so. He believed his furniture designs were "the clearest concrete expression of the Craftsman idea." He had, of course, many imitators (including his own brothers) who marketed similar pieces under various names: Mission, Hand-Craft, Arts and Crafts, Crafts-Style, Roycroft, and

Quaint. But furniture from the Craftsman workshop always carried the mark shown above.

CRAFTSMAN FURNITURE was durable and rustic enough to be used as lawn and porch furniture (porches were a favorite house feature) and to furnish country and seashore homes. Many people who did not live in Craftsman houses used the furniture for this purpose. In fact, both Astor and Rockefeller hired Stickley to furnish their country homes in the Hudson Valley. Henry Ford, always a rustic, on the other hand, decorated his Manhattan apartment with Stickley furniture.

STICKLEY ALSO USED wicker for indoors and outdoors. To be exact, willow; he did not like rattan. He thought wicker excellent because it had the obvious look of a handicraft and because it harmonized well with his severe and massive oak pieces.



This interior (from the Craftsman 1905) shows three typical Stickley pieces: small bookcase, willow chair and two built-in settles in the fireplace nook.

TWO REPRINT FURNITURE CATALOGS will be of interest to those who wish to know more about Arts and Crafts furniture:

1. "Craftsman Furniture Made By Gustav Stickley" -- his 1909 furniture catalog which includes some metalwork and fabric as well as some house illustrations. \$6.00.
2. "The Arts & Crafts Furniture Work of L. & J.G. Stickley" -- Gustav's younger brothers (and imitators) who marketed their furniture as "Mission," or "Hand-Craft." Complete furniture line. \$5.00.

Both books can be ordered from: The American Life Foundation, Watkins Glen, New York 14891.



Art Nouveau Lady

THERE IS GREAT INTEREST today in both the Arts and Crafts Movement as well as another decorative style of the period--Art Nouveau. The difference in these two major styles is best summed up by the noted art historian, John Freeman, who wrote (in 1965) this interesting comment:

"The Art Nouveau's emphasis on the wavy line, stylized ornament, and overt eroticism

never found great acceptance on these shores, except in advertisements and other graphic media. Far more successful was the Arts and Crafts aesthetic of harsh, geometrical outline and sparse ornamentation. The difference, then, between Art Nouveau and the Arts and Crafts was sexual. Voluptuous woman with long flowing hair and prominent feminine features--and exotic feather trappings were the two most often repeated motifs of Art Nouveau design. Woman is almost totally absent from Arts and Crafts design and when she is present she is either saintly or sexless. Muscular, hard, rude, and brutal, Arts and Crafts design is male-oriented. Art Nouveau outlines are smooth, soft and flowing. Those of the Arts and Crafts are rigid, sharp, and unyielding."

ANYONE INTERESTED in the Craftsman style will want a copy of a fine new book, Craftsman Houses. This book is a reprint of the 1909 edition of the book by the same name and is a gathering of design from The Craftsman Magazine. Contents include: 40 house plans and drawings, Stickley's essays on interior design, metalwork, furniture, needlework, wall treatments and floors, plus woodworking and wood finishing techniques.

THIS EDITION is 8-1/2 x 11, soft-cover, with 224 pages and 296 black and white illustrations. Four interiors are reproduced in color on the inside covers. Amazingly, the price of this handsome book is only \$6.00.

TO ORDER Gustav Stickley, Craftsman Houses #23791-5, send \$6.00 + 70¢ postage, to: Dover Publications, Inc., 180 Varick Street, New York, N. Y. 10014.

Stripping With The Heat Gun

By The OHJ Staff

STRIPPING THE LAYERS OF PAINT from vintage woodwork is time-consuming and tedious. Yet many old-house owners strip and refinish doors and window frames, panelling and wainscot, mouldings, and even whole staircases...because the results are so worth the trouble.

DIFFERENT PAINT-STRIPPING projects require varying tactics. Refinishing experts agree that, whenever practicable, hand stripping wood pieces is preferable to dipping them in a strong chemical bath. A heat gun, which removes paint using flameless high temperatures, is often the best overall tool for taking paint off wood surfaces.

Advantages Include Safety

A HEAT GUN makes paint-stripping safe and quick. If you have lots of woodwork to do, it's the most economical way as well.

THE HOMEOWNER AVOIDS the large doses of methylene chloride vapor given off by stripping chemicals. Also, while propane torches pose the danger of lead-poisoning by volatilizing old lead-based paint, the flameless lower heat of the gun avoids this hazard entirely. And of course, there's less likelihood of fire and burns.

IT'S A FAST METHOD, because the paint bubbles and lifts as you go along. There's no waiting for chemicals to soak in, no multiple recoatings, and far less cleanup.

AS FOR ECONOMY: These guns are long-lasting industrial products, so the initial cash outlay is promptly made up in savings on the \$12 per gallon stripper you're no longer buying in quantity. Even after much heavy use, a worn-out heating element can be replaced by the owner for about \$7.

YOU SOON GET THE KNACK of using an electric heat gun. For a tried-and-true method of operating one, see Mike Carew's account in the following section.

Heavy-Duty

AS MENTIONED BEFORE, a heat gun is a heavy-duty tool. It draws 14 amps, and since most household circuits are rated at 15 amps, not much else can be plugged in at the same time, or you'll blow fuses. (A heavy-duty grounded extension cord only should be used.) Its operating temperature is between 500-750F. Sensible precautions should be followed.

THE RISK OF FIRE IS MUCH LOWER than with a propane torch, but care should be taken that combustible dust is removed from your work area. Remember that baseboards, carved mouldings, and the like are dust-collectors, so be sure to clean and sweep just before using the gun.

THE OLD-HOUSE JOURNAL STAFF has found the following procedures are NOT recommended:

- Don't use a heat gun to remove shellac and varnish.
- Don't use it to strip Early American milk paint. (Only ammonia works on that.)
- Don't try to strip paint from slender window muntins--it's always possible the panes will crack from prolonged heat.
- Don't attempt to strip the exterior of your whole house--it's too slow. But it works fine on porch parts and exterior ornament.

WHEN THE WOOD IS BARE...an electric heat gun can do other jobs too. It is, for instance, an excellent aid in prying up old linoleum. (The heat will go right through the linoleum to soften and loosen the synthetic resin paste that glued it down.) It has been used to thaw frozen pipes in the winter. And it will soften old putty when you're replacing window glass.

The Voice Of Experience

By Mike Carew

I WAS ALREADY well into the restoration of my 1890s Brooklyn brownstone when I discovered the heat gun. Though most of the woodwork in my house was in its original condition, the dining room and kitchen downstairs were covered with paint. The first stripping project I attempted was one of the dining room's focal points: the Eastlake-style breakfront wall.

WITH GALLONS OF STRIPPER, scrapers, and reams of paper towels in hand I went to work. But removing numerous layers of paint with chemical stripper took much longer than I'd expected. I was so discouraged with the amount of time, effort, and expensive stripper it took, I postponed any further work while I searched for a better way. Many of my neighbors were in the same process, using everything from propane torches (which burned the wood), to Roto-Strippers (which chewed the wood to bits.)

ABOUT THIS TIME I started my job at The Old-House Journal. I learned that the heat gun was highly recommended by readers, so I purchased one hopefully.

FOLLOWING THE INSTRUCTIONS provided, I held the gun one or two inches away from the surface to be stripped. Within two minutes the paint bubbled and melted. Slowly I scraped the soft paint with a two-inch broad knife while continuing to heat an adjoining section of painted surface as I moved up. (See photos) The stripped paint that accumulates on the scraper hardens almost immediately, so you don't have to worry too much if it falls on the floor. (I put the paint goop in empty coffee cans.)

THE HEAT GUN removed all the layers of paint down to the original coat of varnish. I found that the gun will not remove varnish...it tends to burn it and eventually will scorch the wood. This is where the final stripping process comes in.

The Detail Work


AFTER COMPLETING the flat surfaces of the woodwork, I did the narrow grooves and the intricate detail. For this part of the job I used an icepick (for the grooves); a screwdriver (for the narrow turned places); and the smallest paint scraper I could find at the hardware store (for the narrow flat surfaces a two-inch blade won't reach.)

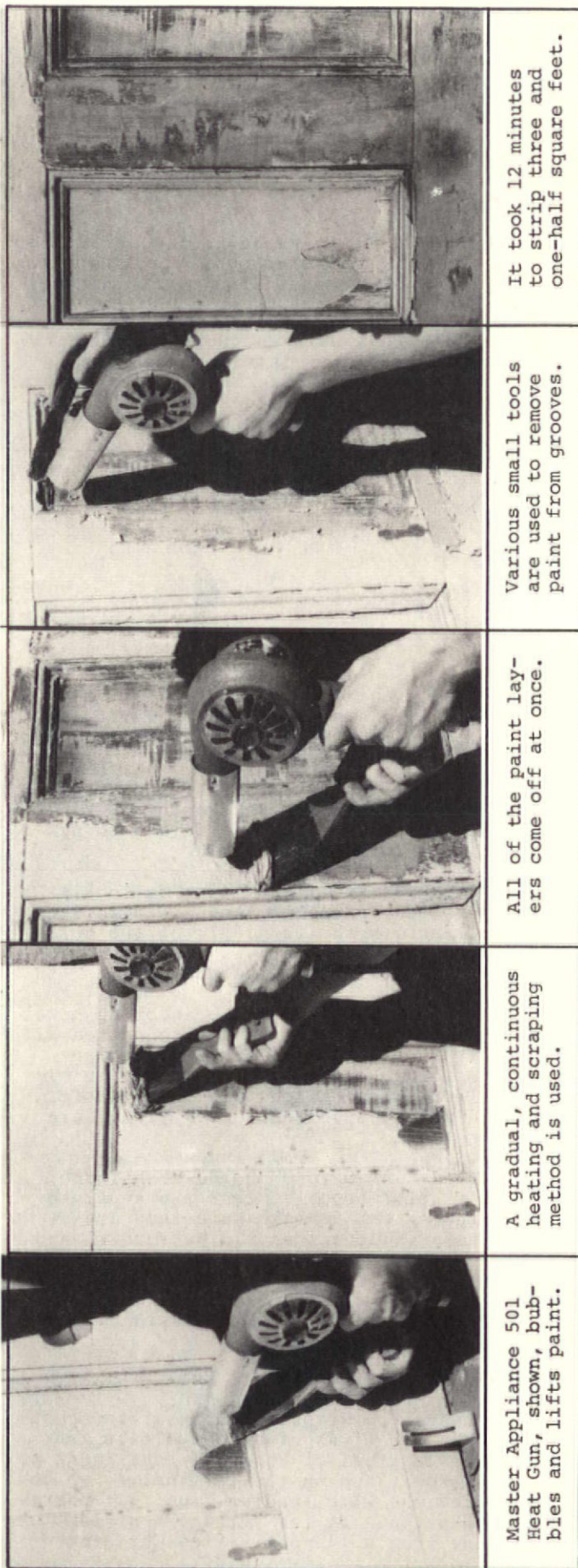
FIRST I AIMED THE GUN at the grooves and, using the icepick, got as much of the paint out as possible without scorching the wood. Don't worry if you can't get all the paint out of the grooves, because you'll be able to remove the rest in the final stripping process.

AFTER THE GROOVES ARE DONE you can go to the narrow flat surfaces of the wood and the detail. A little experimentation turns up the most appropriate tool for the surface you're tackling. It's not too difficult. But remember--don't spend too much time on one area or you might scorch the wood. When you've done as much stripping with the heat gun as you can, you're ready for the final stripping process. Be sure to work in a well-ventilated space--use a fan if you have to--and wear gloves.

FOR THE FINAL CLEANUP, a two-step system worked well for me. Working on a small section at a time, I coated the wood with liquid chemical stripper. After waiting for it to soak in (not long because there was very little paint left), I removed it with a scraper and rags. I then recoated the same area lightly and went over it with medium (00) steel wool--this effectively removed the old varnish. Now you should have a pretty clean surface.

IF IT'S AN OPEN-GRAINED WOOD, you may still have a vague whitish residue. In that case you can try the remedies given in the January 1976 or the December 1977 issue of the Journal.

HAPPY WITH THE MORE immediate results, I went on to the kitchen. 



It took 12 minutes to strip three and one-half square feet.

Various small tools are used to remove paint from grooves.

All of the paint layers come off at once.

A gradual, continuous heating and scraping method is used.

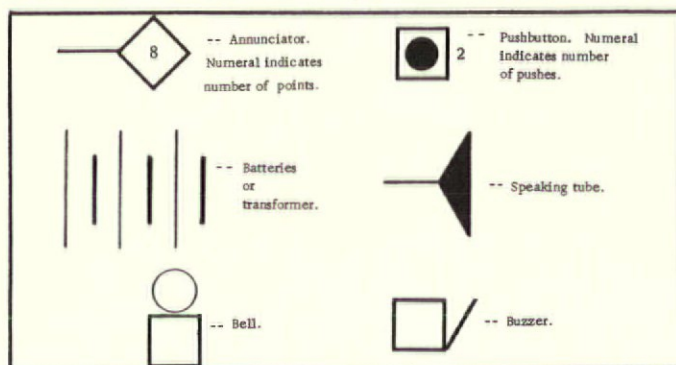
Master Appliance 501 Heat Gun, shown, bubbles and lifts paint.

Finding Faults In Electric Bell Systems

By Tom H. Gerhardt

IN PART I OF OLD-HOUSE INTERCOMS, I described three signalling/intercommunications systems: Speaking Tubes, Mechanical Bells, and Electric Bells.

SOME DETECTIVE WORK will uncover what was originally in the house for intercommunications. If they're still available, the builder's plans usually indicate these devices using the standard architectural symbols shown here.



WHEN AN ELECTRIC BELL SYSTEM is non-working, but reasonably intact and worthy of repair, some simple tests should be performed to pinpoint the trouble.

IF NOTHING WORKS, the first thing to look at is the power source. Simply place a screwdriver momentarily across the terminals of the bell transformer to see if there is a spark, which indicates that power is being produced.

IF THERE IS NO SPARK, check the incoming power supply (the large wires that are connected with the regular house current) by using a high-voltage test lamp on the circuit. If the circuit is alive, then chances are the transformer is dead and must be replaced. (Make sure the ratings match.)

IF CURRENT IS COMING THROUGH the transformer but there's still trouble, test the separate parts of the system to make sure they are sound. The pushbuttons should be removed one at a time and the wires touched together to make certain that trouble doesn't exist in the contacts. (It is wise to clean the contacts with fine sandpaper, so that corrosion won't interfere with the current.)

IF THE ANNUNCIATOR still does not work:

●**TEST A:** Leave the wires touching at one pushbutton. Put the wires of a low-voltage test lamp on the terminal of the bell that leads to the transformer, and on the terminal to which is connected the wire leading from that particular pushbutton. (A low-voltage test lamp can be made from a 14-volt series Christmas lamp and socket with wire leads.)

IF THE LAMP LIGHTS, the wiring for that circuit (leading to the annunciator) is intact. So, there must be a loose wire in the annunciator...or the solenoid coil for the indicator on that circuit is burned out...and/or the bell is not making contact. If the lamp does NOT light in Test A, the wiring leading to the annunciator must be traced to look for a break.

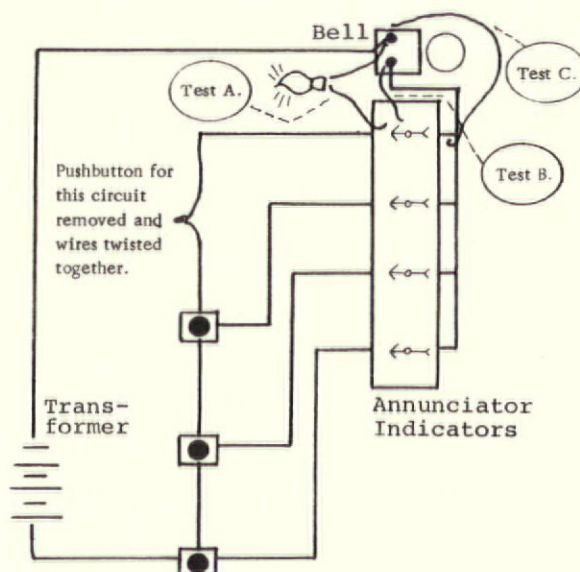
●**TEST B:** After determining that the wires leading to the annunciator are intact, a test for the bell can be made by connecting the bell directly to the power source, bypassing the solenoid. This is done by taking a jumper (a short length of insulated wire with bare ends) and touching one end to the annunciator terminal (as in Test A) and the other end to the bell terminal where the solenoid wire connects. (See the diagram below.)

IF IT DOESN'T RING, the bell may be the cause of all the problems. Sometimes bell trouble can be detected (with the wires touching together at the pushbutton) by flipping the clapper to see if there's any reaction at all. Bells now and then can be restored to working order by adjusting the screw on the contacts, after cleaning the contacts with sandpaper.

IF THE BELL IS NON-WORKING and cannot be fixed, a new one--usually an ordinary modern doorbell--can be installed, preferably in an unobtrusive manner that doesn't require removing the old bell (it might be built-in on the annunciator.)

●**TEST C:** If the wiring to the annunciator is good and the bell rings using Test B, but there is still trouble, then put the jumper on the bell terminal leading from the transformer, and on the bell-to-solenoid wire that is connected with the pushbutton (the one with wires touching.) If the proper indicator does not move, it means either the solenoid is burned out and must be rewound, or there is a loose wire between the solenoid and bell.

OF COURSE, ALL CIRCUITS must be tested in this manner, until the problems are ironed out. Happy troubleshooting! ⚡



Maintenance of Gutters

By The Old-House Journal Technical Staff

BUILT-IN GUTTERS (also called box gutters) that we discussed in last month's article present severe maintenance problems. This month, we'll look at hung wooden gutters--and also examine an interesting compromise between a built-in and a hung gutter.

HUNG WOODEN GUTTERS work quite well, are reasonably attractive, and will last indefinitely--if properly maintained. They are much stronger than aluminum gutters and resist sagging, especially under heavy ice and snow loads in cold climates. (The tendency of metal gutters to sag leads to water collecting in low spots... with resulting deterioration.) The joints between sections of wood gutters should in the long run remain at least as watertight as metal ones, again assuming proper maintenance. The wood joints tend to remain tight partially because wood swells when it becomes damp.

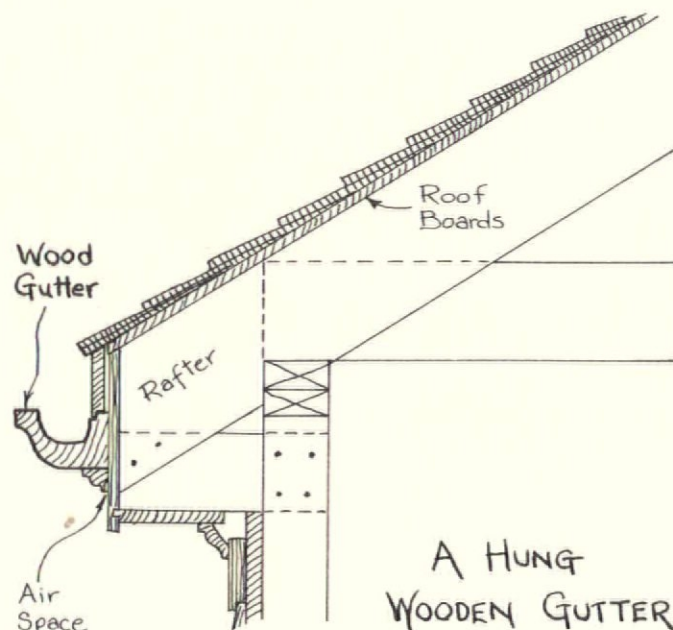
THE BIGGEST DISADVANTAGES of wood gutters are: (1) If they aren't properly maintained they will rot; (2) It is now very difficult to find wooden gutter stock should you have to replace some; (3) It may be difficult to find someone to handle the relatively simple carpentry needed to install them.

Keep Gutters Painted

REGULAR MAINTENANCE is the key to keeping wooden gutters in good working order. As part of normal maintenance, they should be inspected and cleaned at least once a year; more often if nearby trees drop a lot of debris in them. Caulking of joints should be checked (and renewed if necessary) at the same time.

EVERY FOUR or five years, the interior of the gutters should be wire-brushed, primed and given one or two finish coats of paint. Ordinary exterior house paint can be used, although some experts swear by aluminum paint. Aluminum paint stands up well and is slick and slippery...and thus tends to get washed clean.

IF YOU HAVE WOODEN GUTTERS that have gone without paint for some time so that the wood is



A HUNG
WOODEN GUTTER

dried out and cracked, before painting use a primer composed of 50% boiled linseed oil and 50% wood preservative (like "Wood Life"). Brush this solution on generously, letting the wood absorb as much as it will take. (Be sure to do this only when the gutters are completely free from all dampness.) Allow the gutters to dry for 48 hours, then repeat the treatment. Let this second coating dry for a week, then add one or two finish coats of paint.

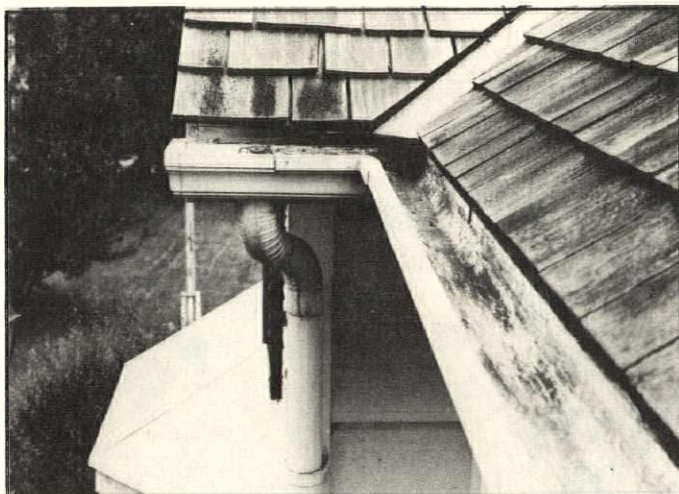
IF THERE is minor damage to wood surfaces resulting from rot, you might want to repair the wood with epoxy wood consolidants before treating the rest with wood preservatives. Epoxies are expensive materials, so whether this treatment is practical would depend on the amount of surface area needing repair. You can use a material like "Git-Rot" to encapsulate the rotted wood fibers in epoxy. Then you could use a flexible epoxy mending putty to build up the surface. These epoxy mending materials are available from marine supply stores. If there isn't one near you, a mail order source is: Defender Industries, Dept. OHJ, 255 Main St., New Rochelle, N.Y. 10801. Send \$1 for catalog.

IF YOU are planning any significant use of epoxies to restore rotted wood, it would be a

Needed: Source For Wood Gutters

THE EDITORS have been unable to locate a source for wooden gutters. Some of our readers have been able to find old stock squirreled away in the back of some lumber yards. (A reader purchased some last year for \$2.65/linear ft.)

IF ANY of you know of a mill that is still producing wood gutter stock, please write the editors at: Old-House Journal, 69A Seventh Ave., Brooklyn, N.Y. 11217. Thanks—C.L.




This wooden gutter has been in service many years...and will last decades longer if properly cared for. The inside should be wire-brushed, primed and painted. Caulking should be renewed at all joints. Note metal angle iron that reinforces the mitered corner.

good idea to get the new government report on the procedure. It's called: "Epoxy for Wood Repairs in Historic Buildings" and is available for \$2.50 from the Supt. of Documents, Washington, D.C. 20402. Ask for stock #024-016-00095-1.



QF EQUAL IMPORTANCE are the things that you shouldn't do to wooden gutters. The interior surface should never be tarred with roofing cement. This unfortunately is a common practice. Problems arise as the tar hardens, while the wood below continues to expand and contract with the weather. Eventually, a small gap occurs between the tar and wood, leaving a space where water can collect and/or condense. This, of course, is a perfect environment for rot and decay. Eventually, the treatment that was designed to prevent decay causes it.

IF YOU HAVE ACQUIRED a house that has gutters that have been tarred, you have two options. The first is to try to remove the tar. This is a frustrating business, best tried on a cold day when the tar is brittle and easier to chip out. Some folks have used dry ice to chill the tar even more. The second option is to leave the tar in place and to try to nurse the existing tar system along by flowing liberal amounts of wood preservatives into any cracks that might admit water. 

SPECIAL THANKS for help with this article to Ted Ewen, a restoration carpenter residing in Scarsdale, N.Y. Ted has been involved with old houses for 40 years, and also has skills as a shipwright and boat designer.

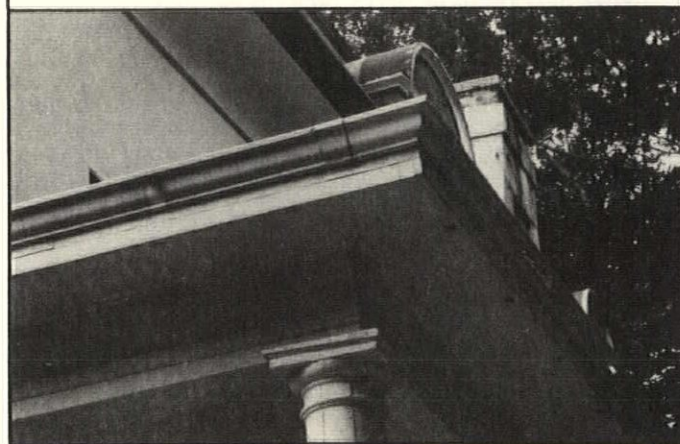
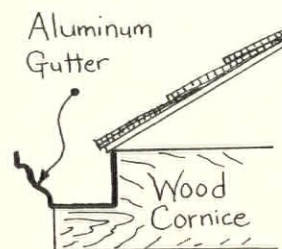


A Hybrid Gutter System

THE HOUSE above had built-in gutters on the porch which had rotted out. To replace the old system, restoration carpenter Ted Ewen fabricated a hybrid system that provides much of the visual camouflage of a built-in gutter with the economy of using readily available aluminum gutter stock. The gutter selected had an outer lip with a profile similar to a classical moulding.

THE WOOD CORNICE was rebuilt (which had to be done anyway) with a recess to accept the new aluminum gutter stock. The recess was shaped so that the outer lip of the aluminum gutter becomes an integral visual element in the cornice.

BIG ADVANTAGE of this design is that it relies only on the carpenter's skills—which many homeowners already possess. It avoids the need for a custom-fabricated metal lining in the gutter—and the periodic resoldering of joints that is part of maintaining a conventional built-in gutter system.



Moving Historic Buildings

FEW OPERATIONS IN PRESERVATION are as complex as that of moving an old house. While house-moving technology is not new, the planning and carrying out of each step requires knowledge not usually possessed by any one contractor or architect.

IN ADDITION, each individual case brings special considerations: What is the fabric and condition of the structure? Should it be moved intact, or in partial or complete disassembly? If it is a building with National Register designation, how will the move affect its status and funding? Who should be employed to do archaeological and historical research? Is such study always necessary? What licenses are needed? And so on.

BUILDINGS HAVE BEEN MOVED at least since the 1700s and some of them have weighed 10,000 tons; the procedure can obviously be dealt with satisfactorily. But to prevent harmful mistakes and

the possible loss of historical and architectural integrity, the owner must be fully aware of the questions to be answered.

A PAMPHLET HAS BEEN PUBLISHED by The Heritage Conservation and Recreation Service (U.S. Dept. of Interior) which covers the subject very well. Written by John Obed Curtis, curator of Old Sturbridge Village, it plainly states the problems and outlines a rational step-by-step plan. From the Introduction:

"MOVING a historic building is a delicate operation; it should not be undertaken until all other possible ways to save a structure from demolition have been investigated. This report has been prepared to serve as a guide for just such a situation. Its aim is to explain the precautions to take, and to suggest procedures to follow during the relocation....

"ALTHOUGH the art of house moving is neither a new nor technically complex invention of the 20th century, engineering a building move must be done with care to ensure the safe and successful relocation of a historic structure. It cannot be overemphasized that such buildings should be moved only as a last resort, and if they are moved, precautions must be taken so that the structure...is harmoniously integrated with its new site. If those who are about to embark upon such a project follow the advice given in the text...their relocation project should be greatly facilitated."

CURTIS HAS ADVISED on the entire procedure, from wisely hiring professionals, through mapping the best route, and to site-planning and community involvement. With both archival and new photographs and diagrams liberally illustrating the text, the publication serves as a capsule history of the technology as well as a guide to procedure.

THE BOOKLET concludes with an actual case study written by Charles A. Parrott III. A selected bibliography is thoughtfully included. This pamphlet is necessary introductory reading for architects and other preservation professionals. Home-owners who contemplate a house-moving should find that the information will make planning, hiring and talking to contractors much easier.

THE 50-PAGE PAMPHLET costs \$2.50. Orders for "MOVING HISTORIC BUILDINGS", stock #024-016-00109-5 should go to: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.



This remarkable move took place in Brooklyn in 1923. The Perry Mansion was moved across the street and to lower ground. Because traffic could not be interrupted, a sophisticated cribbing was built to extend over the roadway. The structure was pulled across and re-situated 200 feet from its original site.

Products For The Old House

Decorative Hardware

BROADWAY SUPPLY is the parent company and major retail sales outlet for The Heritage Collection. The Collection features many restoration hardware items and a complete line of bathroom fixtures and fittings.

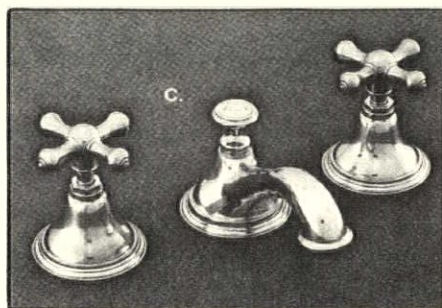
PRODUCTS are organized into 14 coordinated "design suites", each including bath fittings, door hardware, and such accessories as hooks and switchplates. The fittings are of the highest quality materials: solid brass, porcelain, crystal, and wood.

SUITES RANGE from the simple and elegant "Colony White" porcelain to several fired-in porcelain flower patterns, and the unique "Millwood" set--walnut-stained ash fittings with a turn-of-the-century flavor. All appointments are solid brass, available in four finishes.

THEIR DECORATIVE HARDWARE is of formal French and English derivation. Unusual exterior door hardware (mail slots and boxes, knockers) is available. In addition, The Collection includes a wrought iron hardware line.

OF SPECIAL INTEREST are the hard-to-find replacement sink bowls, and porcelain spoke-handled faucets.

FOR THE LARGE color catalog, readers should send \$3.00 to: Broadway Supply Co., Dept. OHJ, 601 W. 103rd St., Kansas City, MO 64114. Telephone (816) 942-8910.



THOSE LITTLE white tile hexagons are elusive today, but they were a popular choice for bathroom floors at the turn of the century and during the Late Victorian period. Old-house owners often need them to repair existing floors. Others want them to help create a period feeling in a new or renovated room.

OLD-FASHIONED unglazed tiles are perfectly appropriate for bathrooms, entrance vestibules, and kitchens. They're practical as well--the unglazed surface isn't slippery, and the small tiles come pre-spaced on a paper backing for easy installation. And, as many old-house owners can testify, they seem--ingly last forever.

SEVERAL VARIETIES of period-style tiles are manufactured today. The 1-in. squares and ubiquitous 1-in. hexagons are still available, and so are 2-in. unglazed hexagons in a full range of colors.

HOMEOWNERS CAN CALL or write either of the following companies for the names of local distributors.

WE'VE FOUND two major domestic manufacturers:

●AMERICAN OLEAN TILE CO.
1000 Cannon Ave. Dept. OHJ
Lansdale, PA 19446
(215)855-1111

AMERICAN OLEAN makes 2-in. unglazed hexagonal tile, and 1-in. square tile in 23 colors. In addition, they manufacture a 3-in. x 6-in. glazed wall tile called "Caribbean", a glassy, creamy-white tile that is appropriate for turn-of-the-century bathroom walls. Product sheets are free--please specify your interest.

●WINBURN TILE MFG. CO.
P.O.Box 1369 Dept. OHJ
Little Rock, AR 72203
(501)375-7251

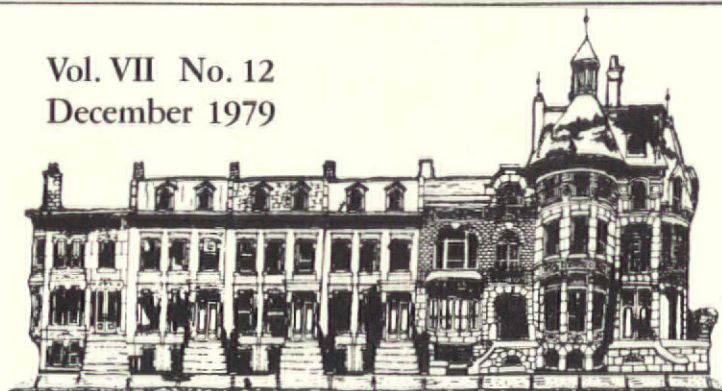
WINBURN makes 1-in. and 2-in. white unglazed hexagonal tiles. They also manufacture 1-in. and 2-in. unglazed square tiles in a range of colors. There is also a line of unglazed and glazed 4-in. x 8-in. pavers which were often used in kitchens.

WINBURN has long manufactured specialty tile for the restoration of historic landmarks. Please write or call the Little Rock offices for further information about this special service.

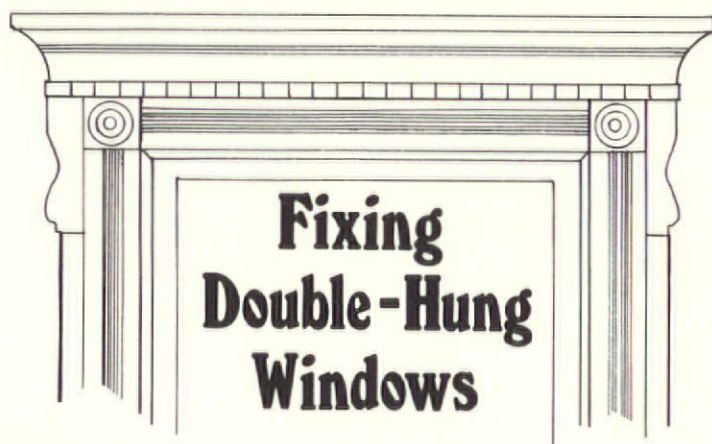
THEIR BROCHURE is free. 

THE OLD-HOUSE JOURNAL

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December 1979



Restoration And Maintenance Techniques For The Antique House



By James McConkey, Washington, D.C.

IT'S TOO BAD window manufacturers abandoned the counterweighted design. Spring-loaded and friction-fit windows are easier for manufacturers to assemble, but that's about their only advantage. Springs and friction must constantly resist the force of gravity, while counterweights work in unison with it. And repairs in new windows mean replacement of costly manufactured components which may become obsolete and unavailable due to further "improvements" in design.

CONTRAST THIS to the simple sash cord needed to repair a counterweighted window. Unlike modern replacement parts, its cost is minimal, it's not difficult to replace, and it's in no danger of obsolescence. Properly kept, counterweighted windows were designed to last the life of the house.

Anatomy Of A Window

A QUICK DESCRIPTION of window anatomy shows there's nothing mysterious about them: A window is simply an open-ended box set through a wall. The bottom of the box, the SILL, is of heavier stock and slopes to shed water

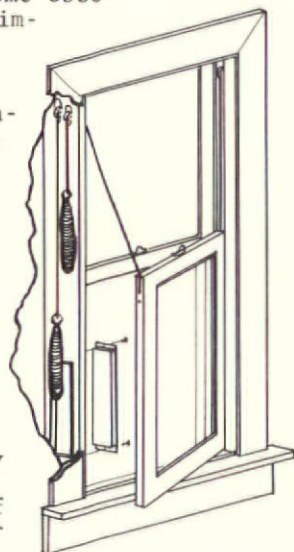
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Coming Next Month

THE FEDERAL HOUSE

outward. The STOOL caps the sill on the inside. The other three sides are called the JAMB. The two vertical sides are sub-classified as STILES. The SASH is the wooden frame that holds the glass, and is housed within the jamb. The bottom horizontal member of the outer (upper) sash, and the top member of the inner (lower) sash are called MEETING RAILS.



DOUBLE-HUNG WINDOWS, which we're dealing with here, are so named because there are two sashes hung in place on SASH CORDS or CHAINS. The sashes slide up and down in runways called SASH RUNS, formed by mouldings affixed to the stiles. The first moulding is the STOP, and the one behind it is the PARTING BEAD, which parts the inner sash from the outer. Removing both sashes means removing both mouldings.

NEAR THE TOP of each sash run is a PULLEY. The cords pass over the pulleys into the WEIGHT POCKETS, and there are tied to SASH WEIGHTS. The weighted mechanism acts as a counterbalance so the window stays put.

(Continued on page 138)

More On Flue Liners

To The Editor:

YOUR ARTICLE on the do-it-yourself flue liner (OHJ, Sept. 1979) reminded me of a similar project we executed successfully on our home. The theory was similar, but the materials used were quite different.

FOR THE LINER ITSELF, we used standard corrugated galvanized drain pipe (the kind that's used to make drainage culverts under roads). This pipe has several advantages: (1) The corrugations provide self-locking in the surrounding mortar--eliminating the need for a clamp at the top of the chimney; (2) The pipe comes with attaching collars, which makes assembly a breeze. The pipe is available through distributors that sell to road contractors.

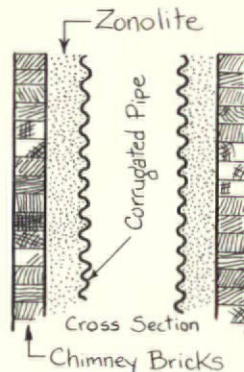
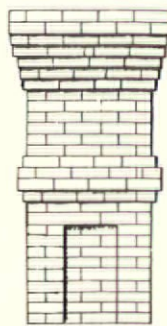
TO FILL THE SPACE between the bricks and the pipe, instead of concrete we used a material called Zonolite. This is a building material that is used (among other things) to pour into the spaces in cinder block walls to add insulation. There are several types of Zonolite; the type we had was mixed one bag of portland cement to one bag of Zonolite. The advantage of Zonolite over concrete is its extremely light weight. This can be an important factor if you have to haul many buckets of the stuff up to the roof.

IN OUR CASE, we had four chimneys to do. So I built some scaffolding that not only provided a work surface around the chimneys, but also let me build a mortar mixing box right up on the roof. I worked with two helpers on the roof, letting down a section of pipe with a rope, fastening a new section with a collar, then lowering it down another section. This process continued until the corrugated pipe came to rest against the damper.

AFTER THE PIPE WAS IN PLACE, I stuffed all the holes around the damper tight with newspaper, then poured a loose mixture of Zonolite down the chimney to pack in around the pipe. After the Zonolite cured for a couple of days, I had a mason rip out the old damper and install a new one--taking into account the revised geometry due to the new chimney liner.

ONCE THE SCAFFOLDING was in place on the roof, the work went quite rapidly. We were able to line two chimneys in a single day.

S. M. Mahan, Jr.
Montevallo, Ala.



THE OLD-HOUSE JOURNAL®

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Concrete Concerns

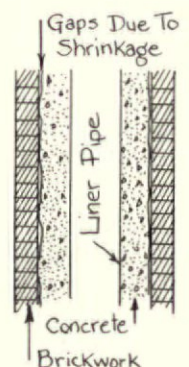
To The Editor:

I WOULD LIKE to add some cautionary comments to the article on flue liners in your September 1979 issue. After inspection of many old chimney stacks, I would suggest that the procedure outlined in the article be used only as a last resort and if it is impossible to install a more conventional tile lining. This caution is especially true in colder areas of the country that are subject to freeze-thaw cycles.

(1) Concrete mixes that are high in water tend to shrink when they cure. So putting a soupy mixture of concrete down the chimney to surround the galvanized pipe may mean that you're going to get small cavities created when the concrete shrinks.

IF WATER penetrates any gaps in the brickwork during the winter, water that is trapped in these voids can freeze--with consequent damage to the masonry. That's why experienced masons try to leave an air space between a tile lining and the chimney bricks. That way, if any water intrudes, it can drain harmlessly away.

(2) If the chimney was constructed of lime mortar, I'd be wary of using a portland cement concrete. The OHJ has carried numerous warnings about adding "hard" portland cement to "soft" lime mortar brickwork.



Charles Walker
New York, N.Y.

Restoring A Block In Chicago



This is a 1906 view of Jackson Boulevard in Chicago, looking east toward downtown.

Photo courtesy of the Chicago Historical Society.

By William L. Lavicka

MY WIFE, Alys, and I had practiced for the fine art of renovation by experimenting on a large apartment on the west side of Chicago before charging out to do our own home.

OVER THE COURSE of three years we managed to do all the building trades using a bedroom as our workshop. We made plenty of mistakes, but in the end we had a pretty good handle on old buildings. We also knew that we liked the convenience of inner city living and wanted to buy a house in the area.

NOT JUST ANY HOUSE, but an 1880's house complete with cornices, mansard roof, elegant entrance hall, marble fireplaces, parquet floors, tall windows and high ceilings. But everything that was available was plain and often "remuddled." However, in the course of our intensive search we found four other couples who were looking for the same things. Separately, we had all zeroed in on the 1500 block of West Jackson Boulevard, twelve blocks from the Loop.

WHEN WE SET OUT TO FIND out why this block alone had remained untouched by years of urban renewal, we discovered that the majority of

the 29 houses and small apartment buildings were either owned or managed by elderly women. They were much too strong-minded to have been displaced by mere bulldozers or frightened by the deterioration around them. But now, in 1974, they were generally willing to sell or retire.

WE FIVE COUPLES PLEDGED to buy together on this block. We hoped to interest additional new buyers as well as to encourage those owners who wished to stay to renovate and improve their properties.

THROUGH GOOD HARD PUBLIC RELATIONS WORK and solid backing by the city we were able to find new buyers for about 20 of the houses within one year. All sales were made on a one-to-one basis without real estate agents, and we made special efforts to interest buyers who planned to live on the block. I published a brochure on the block and a half dozen articles were printed in Chicago papers. We brought our plan to Lewis Hill, the Commissioner of Planning and Development for the City of Chicago.

"WE LIVE IN THIS TREMENDOUS SLUM," we told him. "We need assistance. Tell us before any building is to be torn down. Involve us with the city plans."

NO ONE HAD EVER VENTURED into this district



After four years of work, the 6,000 sq. ft. house looks as it did when Chicago's West Jackson Boulevard was an elegant neighborhood within walking distance of the Loop.



A view of the dining room from the second parlor before restoration.

before. The powers-that-be were intrigued. Mayor Daley toured the area. A demolition order for the block was removed. We were given two years to sink or swim. The city, for its part, gave us funding to restore the boulevard to its former narrower width, to resurface, install new curbs and gutters, and plant a double row of linden trees. For just over \$200,000, eight hundred feet of West Jackson Boulevard began to look as it had when it was home to the mayor of Chicago, business magnates, doctors and lawyers.

FINANCING WAS DIFFICULT to obtain, and most of the new owners spent sweat equity. For the better part of the first year we all held down full time jobs and worked on our buildings at night and weekends. We were hailed by the papers as "urban pioneers," and it was true. There was a certain wagon train aspect to our endeavor. Our prairies, however, were ones of broken glass and brick, and our trails were of asphalt.

ABOUT A QUARTER OF THE WAY through our own renovation, Alys and I decided that I should devote all my time to the house while she held down a full-time job. In the two years since 1974 we had renovated two apartments--one in the rear coach house and one in the main house at garden level. These provided income for utilities, taxes, insurance and the purchase money mortgage.




The dining room as restoration is almost finished--the floors are not yet sanded.



Evidence pointed to a plasterwork arch between the front and back parlors. Bill reconstructed the arch in wood with plaster corbels.

THE PATCHING, PLASTERING and painting continued downstairs with my piece de resistance being the replacement of an arch that once existed between the first and second parlors. It had evidently been similar to the ornate plaster arch which remained upstairs over the alcove in the master bedroom.

MY FORTE, however, is working with wood, so I pieced and routed out an arch in wood to slip into place. A mould was made of expanding foam on the upstairs corbels. Again, amateurs beware. Plaster of paris was the casting material for the downstairs. Because the relief was light and there had been layers of paint on the original I had to carve the relief to deepen in on the castings.

RENOVATION HAS CHANGED MORE than our house. Our block--the Jackson Boulevard Historic District--is on the National Register of Historic Places. Houses on neighboring blocks have been renovated. Alys and I are now partners in Historic Boulevard Services, a company founded for the express purpose of renewing and restoring old buildings. 

(Photos by Lisa Pitman.)

NEXT MY SMALL CREW of novice craftsman and I moved to the second floor with four bedrooms and three baths. Nailed back, built-in shutters were liberated and stripped in a lye tank in the garage. I want to caution anyone trying amateur lye stripping. It is only recommended on pine and fir. We discovered the hard way that oak and other hardwoods shrink or swell and seem to dissolve.

PARQUET FLOOR BORDERS WERE PATCHED under leaking radiators, using new maple, oak and mahogany. We cut the new strips in half so they would match the thin old wood. Plaster cracks were gouged out and taped with regular wall-board tape and Durobond 90, a hard-setting tape compound. Several thin coats of Durobond were finally spread over the entire wall. Practice this technique in closets first. Skim the surface with a plasterer's sweeping passes with sprinklings of water to smooth the compound.

THE PLUMBING HAD BEEN in reasonable condition and it was decided to patch leaking pipes, put in new lavatory water mixers and replace old faucet washers. Since we had the time we were able to salvage and update all our existing mechanical and electrical systems.

BEFORE WE HAD BOUGHT the house there had been a serious fire in the dining room. The previous owner had gotten very little money from insurance since insurance companies will pay for fixing a room in proportion to the total house and total insurance. As a result there was a definite challenge in the dining room.

A FRIEND HAD FOUND TRIM similar to ours, but only half of the required quantity. I began to mill the remaining woodwork with an electric router, table saw and a couple of hundred dollars worth of various router bits.

THE ADDRESS OF Historic Boulevard Services is 1520 West Jackson Boulevard, Chicago, Illinois 60607. Telephone: (312) 829-5562.



The kitchen (previously purple and brown) was the first room in the house to be renovated.

THE TOOLS YOU NEED:

- Hammer
- Block of wood
- Utility Knife
- Paint Scraper
- Red Devil "Windo-Zipper"
- Steel Pry Bar (12-16 inches)
- Six feet of string with a small weight--like a screw--tied to one end
- Pliers
- Screwdriver
- Household Paraffin
- Flat File

Disassembly

IT'S POSSIBLE to do all the work from inside. Keep three things in mind while working:

(1) When scarring wood is unavoidable, do it where it won't be seen. (2) When you pry against or hammer on visible parts of the window frame, use a block of wood to protect the surface. (3) Never leave a loose sash sitting upright in the jamb. A gust of wind will easily knock it over.

FIRST REMOVE ONE STOP to take out the inner sash. Before prying it loose, use the utility knife to score the paint along the seam between the stop and the jamb. Work the pry bar under from behind the stop bead to keep any initial scarring concealed. Work up and down the strip, prying a little at a time. Remember: Old wood is brittle, so you can't just yank it off. You can pry from the front once the stop is loose.

IF THE STOP BREAKS, similar lumberyard stock is available. However, even if it's the right shape, it may be smaller than the original... so you'd need enough to replace it on the entire window.

IF THE WINDOW WON'T OPEN due to paint build-up, take the Windo-Zipper to the seam between the window sash and the stop moulding. Don't force the tool into the crack; cut the paint film in long, moderate strokes. If the window still won't open, it's probably painted shut on the outside too, and in this case going outdoors will help. If this is impractical, try at least to loosen the stop from behind, above the sash. With the utmost care, proceed prying from the front. When the stop is off, pull or pry the sash toward you to break the grip of the outside paint. Absolutely do not pry upward from below on the stool--this always results in obvious gouges. (Of course, you can pry up from the outside.)

IF THE SASH STILL doesn't come out, see if the problem is attached weatherstripping.

IF YOU WANT to remove the sash, but don't need access to the weights, SECURE THE ROPE OR CHAIN and DON'T let it fall with the weights down behind the jamb. Otherwise, cut the sash cords and let the weights fall into the pockets. Put the sash in a safe place.

JUST AS YOU removed the stop to take out the inner sash, now you remove the parting bead to get to the outer sash. Because it's thinner, the parting bead is even more likely to break than the stop moulding, but it too is commercially available.

THE PARTING BEAD is in a groove in the stile, so you can't get the pry bar under it at first. Score the paint seams and pry carefully again.

TO GET THE SASH MOVING, reach outside with the Windo-Zipper and rip the seam between the sash and the BLIND-STOP (so named because the exterior shutters--called "blinds"--stopped against it when closed.) If it won't yield to pulling, pry downward at the top from the outside (where it's inconspicuous) and tap gently downward on the meeting rail. Too much pressure or hammering can break the meeting rail and pull it loose at the ends--so take it easy. When there is space for your fingers at the top, pull down on the sash from there. If nothing makes it yield, see if it is nailed shut. (This is a common way of keeping the sash up after the cords break. Also, some people do it to keep burglars out.) If finish nails were used, just drive them on through. If common nails were used, get under the heads and pull them out. Here, a bit of scarring could be the price of somebody's earlier incompetence.

NOW, EXAMINE the inner sash runs. You'll see a screw, probably encrusted with paint, about a foot or eighteen inches up from the sill. A section of the stile is removable here, to give access to the weight pockets... and that screw holds the section in place. It may take awhile to find and remove the access plate. If there is no screw, a previous workman may have discarded it and undoubtedly nailed the section back in. It's usually rabbetted to run under the parting bead, and if so you must remove the parting bead on both sides. Reach inside the pockets and pull out the weights.

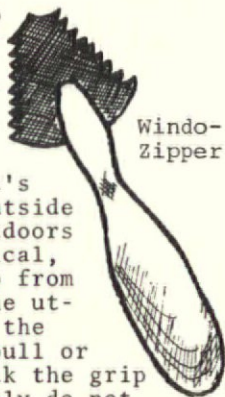
(NOTE: Some windows, particularly in pre-1860 and rural houses, don't have access holes. To get to the weight pocket, it's necessary to remove the casement moulding.)

Repair & Replacement

WITH THE WINDOW THUS DISMANTLED, you're ready for any maintenance tasks. Ridges of paint build up on the sashes where they encounter the stop moulding and parting bead. These ridges should be scraped, as should any other areas of excess or loose or flaking paint. I recommend using the sharpened paint scraper because it neatly makes fast work of thick paint. Don't try baring the wood with the scraper, no matter how sharp. If you want bare wood, use paint remover. File the scraper often.

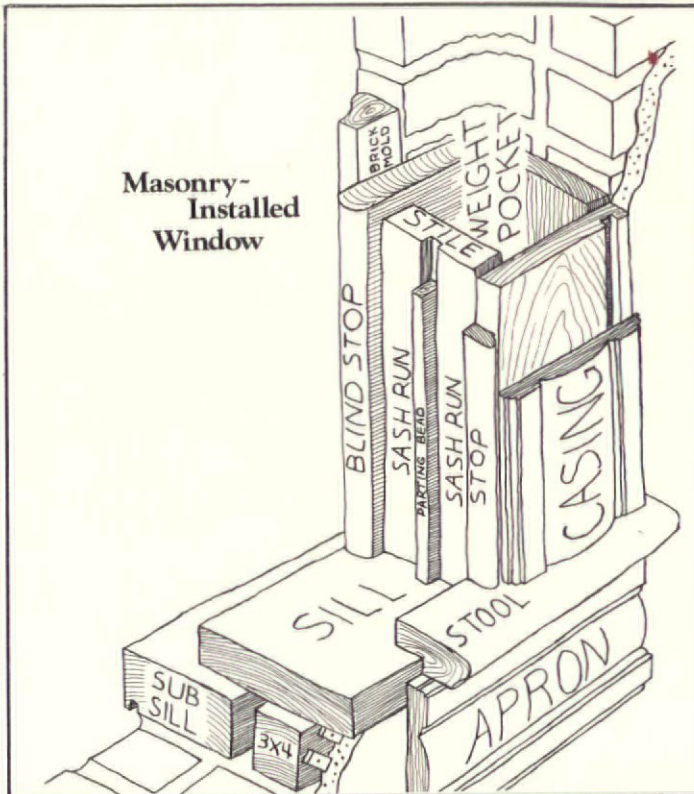
THIS IS THE TIME to repair broken glass, and to replace loose, dry putty. May as well wash the windows too.

YOUR LAST STEP is replacing the sash cords. Cotton rope with a nylon center is sold in hanks, specifically labelled "sash cord." How-

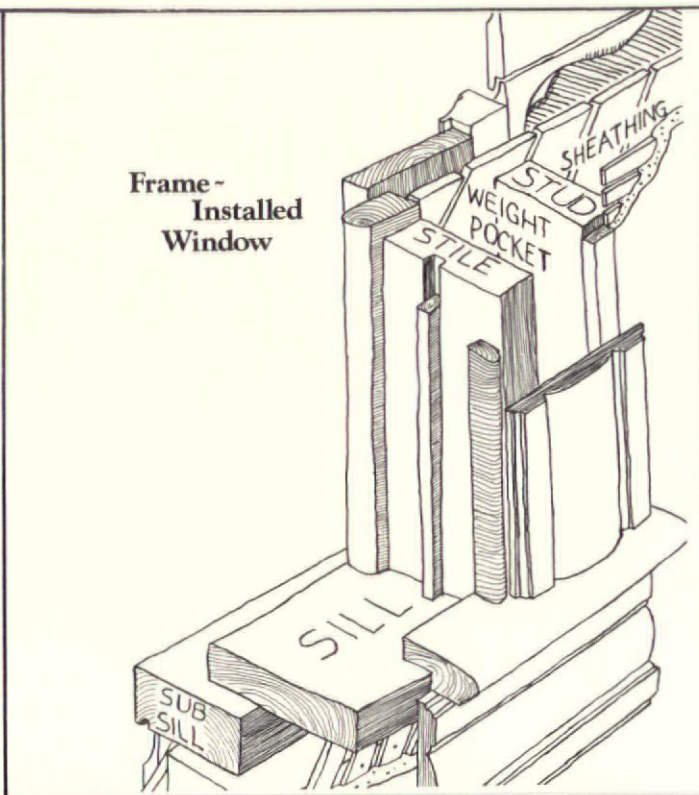


Windo-Zipper

**Masonry-
Installed
Window**



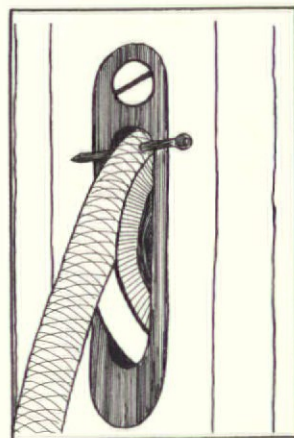
**Frame-
Installed
Window**



ever, since the same weights and pulleys are used with chain or rope, consider switching to sash chain: It can't rot or stretch or get stiff. This flat steel chain, too, can be purchased in pre-packaged lengths.



IF YOU ARE USING CORD, now the weighted string comes in handy. Push the weighted end over the pulley into the weight pocket and let it drop to the access opening. Tie the free end to the new sash cord and pull the cord into the pocket, down and out through the access. Tie the sash weight to the sash cord. Use a knot that will stay tied but isn't bulky, such as a slip-knot. (Shown)



GRASP THE OUTER END of the cord and pull the weight all the way to the top. Temporarily put a 4-penny finish nail through the cord near the pulley, across the pulley hole. This enables you to attach the free end to the sash without the weight constantly tugging at you.


GAUGE THE LENGTH of new cord according to the old. To adjust the rope length: Hold the sash against the parting bead as you raise it to the top. Look at the weight in the access hole--with the sash up, it should be three inches above the sill. If not, adjust the rope at the sash.

THE SASH CORDS are housed in slots in the vertical sash pieces--called STILES like the vertical jamb members. Put the cord into the slot, and thread it through the hole beneath. Tie a knot in the end and push the knot back into the hole, where it will support the sash. (If you're using metal chain, attach the end of the chain to the sash with wood screws.)

Smooth Sliding

PUTTING THE WINDOW back together is just the reverse of taking it apart. Take the block of paraffin and wax both the edges of the sash and the insides of the sash runs; this helps the sash slide smoothly.

THE ONE CRITICAL STEP is renailling the stop moulding. It shouldn't be so tight that the sash is hard to move, nor so loose that the window rattles. About five 4- or 6-penny finish nails hold the stop on each side. Drive one part-way in, check the movement of the sash, drive another and recheck, and so on till all the nails are in place. Drive them down and set them.

AFTER SOME MINOR spackling and paint touch-up, that obdurate old window is ready for another fifty years of service! 

Gilding With Gold Leaf

By Patricia Poore

GILDING is the application of metal leaf or metallic paint to a surface--and it's been a popular decorative technique since Ancient Egypt. Gilded furniture probably arrived in this country with the first wealthy colonists. In the nineteenth century, gold leaf was applied to furniture, picture frames, and mouldings; stencilled onto walls; and used on window glass.

LEAF IS AN OLD and versatile form of gold. Various metals are supplied in leaves: Silver, aluminum, bronze, palladium, variegated copper, and lesser alloys. But nothing compares to gold leaf; besides its deep-rooted magic, gold will not tarnish and offers an unparalleled brilliance.

XX GOLD (23 karat) is the most pure and important variety of gold leaf. The grades run down through lemon-gold (18 karat) and pale-gold (16 karat), to white-gold (12 karat), which is half gold/half silver, and has its own special applications.

GOLD LEAF is supplied in books of 25 leaves, each leaf measuring 3-3/8 inches square. The gold is beaten down to an approximate thickness--or rather thinness--of .0000035 inches (three and one-half millionths, or three hundred thousand leaves to an inch.) One book covers 1.5 sq.ft., and costs \$7-\$8.

Old Techniques

THERE ARE TWO distinct methods in gilding. **SURFACE GILDING** is the application of metal leaf to the surface of a solid object. In surface gilding, the leaf is transferred to an adhesive ground (size) straight from the book. The size has an oil/varnish base. **GLASS GILDING** uses a water-based size with a binder such as gelatin. A gilder's tip is used to transfer the leaf from the book to the wet size on the glass.

THE PUBLIC LIBRARY may have a book or two about surface gilding, especially on antique furniture. But the only book that explains glass gilding in enough detail is Raymond J. LeBlanc's **GOLD LEAF TECHNIQUES**. (See box, p. 142. This book is a gem; the author writes about his craft with pride and integrity, yet with a plainness and humility that somehow keeps the craft from escaping into Art. All phases and all nuances of gilding are explained.)

A STEP-BY-STEP account of gold-leafing a house number follows. This is not a how-to article, however, as sign-painting, especially with gold leaf, is rather complex. The LeBlanc book does provide all the information you need, but previous experience or some practice after reading the book is recommended. Knowledge of basic brush lettering and a little practice with gold leaf will allow a novice gilder to do a respectable job.

WHETHER OR NOT you try your hand at gold leafing, understanding the process contributes to appreciation of the gilded piece. In our synthetic times, a process that makes use of such earthy materials as beaten gold and fish-bladder gelatin, and that relies on the moisture in one's breath and the oil in one's hair, takes on a nearly mystical quality.

Gold-Leaf House Number

THIS IS A BRIEF OUTLINE of the most basic glass gilding process: Burnished gold leaf with a gelatin/water size. The job was done by an amateur gilder who has minimal signpainting experience. He is, however, knowledgeable in layout and basic drawing, and he possesses patience and a steady hand.

THE MATERIALS used in this job are (in order of appearance): (1) A Bon-Ami cake; (2) Sterile cotton sheets--a drugstore item; (3) White grease pencil; (4) Two gelatin capsules dissolved in one pint of distilled water; (5) A water-size brush--short thick camel hair; (6) XX Gold Leaf; (7) Gilder's tip--a specialized brush; (8) Backing-up paint--mixed japan color and rubbing varnish; (9) Signpainter's brush--French brown camel quills, longish and soft; (10) Mahl stick--see pictures; (11) Paper paint cup/palette; (12) Alkyd resin varnish.

CLEANING: The gold will not adhere if there's anything on the glass. Bon-Ami cleans thoroughly without scratching or leaving a residue.

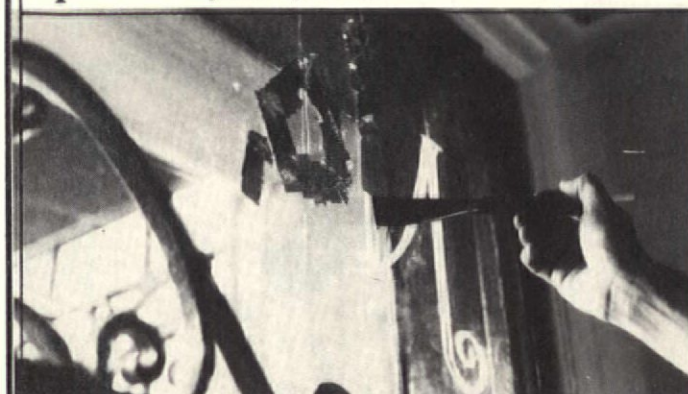
LAYOUT: House numbers and other small jobs are usually laid out in grease pencil on the outside of the glass. A pounce pattern is generally used for larger or repetitive jobs. This is a perforated drawing of the inscription on paper, which is transferred to the glass using a pounce bag (broadcloth etc.) filled with talcum powder, talc and charcoal, or tailor's chalk powder.



1 LAYOUT: On outside of glass, in white grease pencil.



5 SECOND GILD: Size flowed over inscription burnishes it.



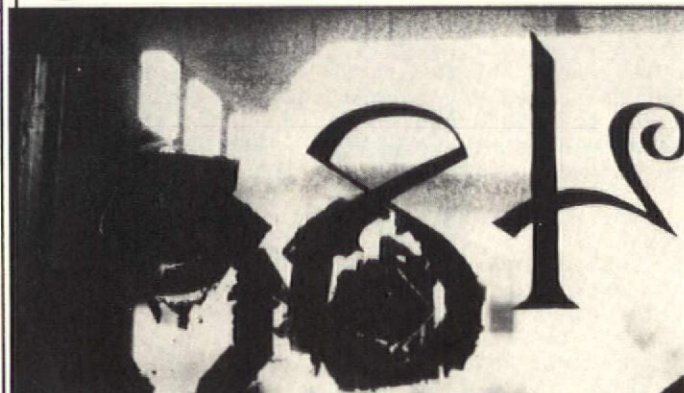
2 SIZING: Water/gelatin adhesive ground is flowed on (inside.)



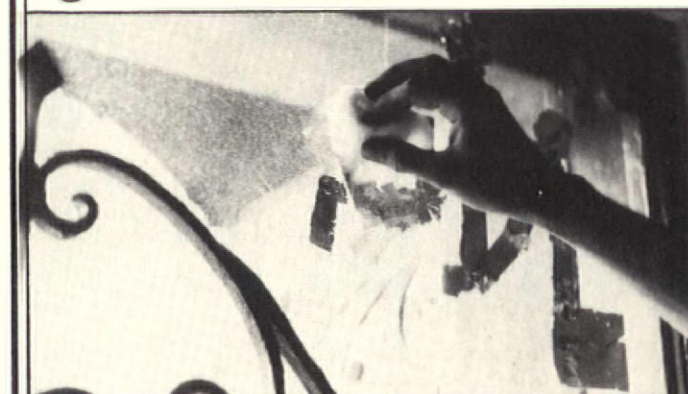
6 BACKING-UP: Figures are painted over gold. Note mahl stick and paint cup.



3 LAYING LEAF: Gilder's tip brings delicate leaf to wet window.



7 WHEN PAINT DRIES, damp cotton removes extra-neous leaf. Protective varnish is last step.



4 REMOVING SURPLUS: Dry cotton removes loose leaf.



8 FINISHED JOB: Note choice of letter style.

☞ **SIZING:** In burnished (mirror finish) gold applications, the gold leaf is stuck to a simple gelatin and water size. This simplest sizing operation is used for the house number. Historically, plain water, egg-white solution, and isinglass (a gelatin made from fish bladders--still available) were used.

THE SIZE is flowed on with a camel-hair brush in an area just large enough for a few pieces of leaf at a time.

☞ **LAYING THE LEAF:** This is the tricky part. The gold is so thin you can't touch it. So the gilder's tip (see photo) is used to pick up the leaf and to transfer it gracefully (good luck) to the wet glass. For each piece, a sheet of the rouged paper that separates the leaves is folded back. (When the gold comes up with the paper because of static, breathing heavily on the paper discharges the static with the moisture in your breath.) Then the gilder's tip is drawn gently and slowly across your HAIR--the oil makes it pick up the gold. The tip is brought quickly to the wet glass, and "slapped" into position, where the water pulls the leaf strongly into contact with the glass.

☞ **SECOND GILD:** About twenty minutes later, the dry gold leaf is rubbed lightly with cotton to remove non-adhering surplus. Then water size is again flowed over the entire inscription, to bring the leaf to a high lustre (ie: burnish). At this time, small patches of gold are applied where needed.

☞ **BACKING UP:** When the gold is thoroughly dry, the numerals are painted over the gold, through which can be seen the original grease-pencil layout. The numerals are, of course, painted on in reverse. The paint is a mixture of japan color and rubbing varnish--fast-drying and tough. For this step you need a small brush, a mahl stick to steady and guide the hand, and a little hand-held paint cup. (The latter two can easily be made according to directions in the book.)

☞ **REMOVING EXCESS LEAF:** When the paint is dry (an hour or so later), a damp wad of cotton is rubbed across the inscription to remove all the extra leaf. Dry cotton removes the final residue. This step is done before the gelatin hardens too much and the paint becomes brittle--by the next day.

☞ **VARNISHING:** In most burnished gold leaf jobs, an outline or shade would be added at this point. In this job, however, the size and configuration of the numbers was considered enough embellishment, and the burnished gold was sufficiently readable. In any case, brushing on a protective coat of varnish is the last step. Alkyd resin varnish adheres well to glass and isn't much affected by sunlight. It extends just a hair beyond the edges of the numbers for best durability. The glass isn't washed for several weeks; after that, the varnish will protect the gold for years provided no harsh detergents or abrasives are used to clean the glass.

Skill And Imagination

SPECIAL EFFECTS are created by various techniques. If leaf is applied over varnish, the effect is matte, or dulled. The most commonly seen use of matte gilding is for the center of letters or numbers, combined with

a burnished (shiny) outline. The matte centers can be done in XX Gold, like the burnished part, for a rich appearance. Or, lemon-gold or pale-gold can be used for a different effect. The practical advantage of matte centers is that they are readable in all lights.


GOLD-LEAF LETTERS can be outlined or shaded, or both. One popular combination is the two-tone single-gild with black outline, known as "Boston Style." This means matte centers in a burnished outline (two-tone), gilded in one operation with the center varnish applied first (single gild), and the whole letter surrounded by a black or dark outline. Double outlining is another relatively simple way to create a unique look.

THE MATTE PORTION can be placed in a particular position in each letter to give a convex (3-dimensional) look. Such convex lettering was popular with signpainters in Chicago.

OF COURSE, COLOR centers in any tint can be painted in instead of matte-finish gold.

BURNISHED FILIGREE ORNAMENTATION is a treatment in which fine-line designs are done in burnished gold in the center of letters. A letter is gilded solid in the burnished gilding, just as before. Then, the letter is backed up in outline only, while a fine design is painted in at the same time. Naturally when the excess leaf is cleaned off, only the gold under the painted decoration will be seen. The open portions can be left, filled in with matte treatment, or painted a color.

EMBOSSSED CENTERS are created by tooling a design into unhardened damar varnish. When the gilding is done over the embossed varnish (with water size), the effect is textured. Last, the centers are backed up as usual.

LIKE GRAINING AND STENCILLING, gold leafing is a painters' craft that has become rare in this century. It's true that a great deal of skill and experience are needed to be a successful gilder, but the techniques are fairly straight-forward, employing uncomplicated tools and materials. Possibilities for application are limited only by the imagination of the leafer. 

ORDERING INFORMATION

GOLD LEAF TECHNIQUES, by Raymond J. LeBlanc, is available from:

M. Horowitz & Sons Sign Supplies
166 Seventh Ave., Dept. J
New York, NY 10003
(212) OR 4-3284

The book costs \$7.00 plus \$1.00 postage. All gold-leafing supplies are available from Horowitz--please telephone miscellaneous orders--and from:

M. Swift & Sons, Inc.
10 Love Lane, Dept. J
Hartford, CT 06101
(203) 522-1181

Swift has a free how-to booklet and distributors nationwide.



Burnished Gild



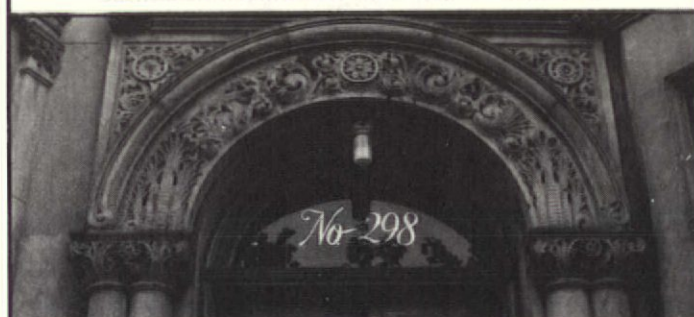
Burnished With Black Outline



Burnished With Black Outline, Embellished



Burnished With Maroon Shade



Burnished, Black Outline



Matte, Black Outline



Matte Center In Burnished Outline, Black Shade



Burnished With Light Outline, Dark Shade

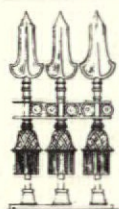


Address Can Be Written Out



Black Numbers, Matte Gild, Green & Rose Decoration

Helpful Publications



Ornamental Ironwork

A GOOD BOOK, recently published, has a title and subtitle that tells all about it-- "Ornamental Ironwork, An Illustrated Guide to Its Design, History & Use in American Architecture."

THE INFORMATIVE text gives us a good overview of historical styles and their regional uses and deals with the question of what is appropriate for a particular house or street today.

A HARDCOVER BOOK, 192 pages, it has over 200 excellent black and white photos, line drawings and plates from old catalogs.

"ORNAMENTAL IRONWORK" is \$20.00 and can be ordered from the publisher: David R. Godine, Dept. OHJ, 306 Dartmouth St., Boston, MA 02116.

An Early Victorian Architect

JOHN NOTMAN (1810-1865) was an important early Victorian architect. Not an originator, he was an importer of sophisticated design ideas from Britain and introduced the first Italianate villa to this country.

IN CONSTANCE M. GREIFF'S new book about him all his known drawings are reproduced and nearly 100 commissions (including the N.J. State House and the Smithsonian Institution) are considered in detail.

"JOHN NOTMAN, ARCHITECT" is a softbound, boxed book, 256 pages, with bibliography and index. It is \$20 from The Athenaeum, Dept. OHJ, 219 Sixth St., Phila., PA 19106.

Victorian Fashions Revived

WHILE YOU ARE IN the process of restoring your house to the elegance it had in another century, you too can look as terrific as you would have had you lived in it then. Victorian and Edwardian clothing for ladies and gentleman can be made for you by Nelson Arriaga.

NELSON HAS PRODUCED costumes for opera, television, and Broadway shows like "Guys And Dolls." A few years ago, he and his wife, Julia, bought an old house. Since then he has specialized in period costumes and numbers among his clients the staff of The Journal.

NELSON'S NEW CATALOG, "Victoriana Revived," is now available. There are items that will introduce you gently to the Victorian way of dressing--shirts, ties, collars--subtle accessories. Or some indoor costumes that enable you to be a closet Victorian; an elegant smoking jacket or a Victorian nightshirt. (These items make great gifts.)

OR YOU CAN JUMP WHOLE HOG into the 19th century with a double-breasted dinner suit with satin quilted lapels or a plaid Inverness cape (the Sherlock Holmes type.) Ladies may order an elegant evening dress or a wool mantle complete with trim and tassels.

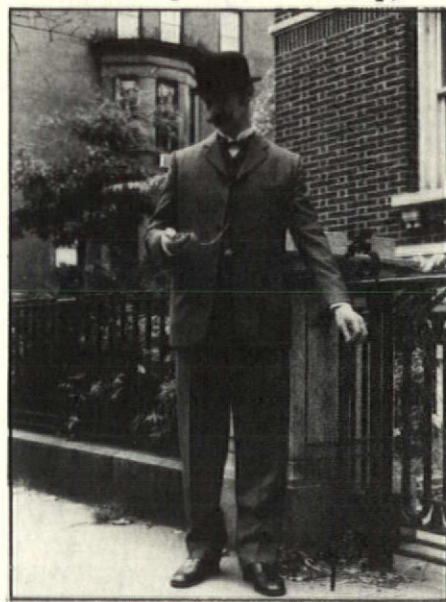
EVERY ITEM IS custom-made so there is a wide choice in fabric, color and trim. Designs

can also be adapted from your sketch or idea. House museum staffs or historical societies can order in large quantities.

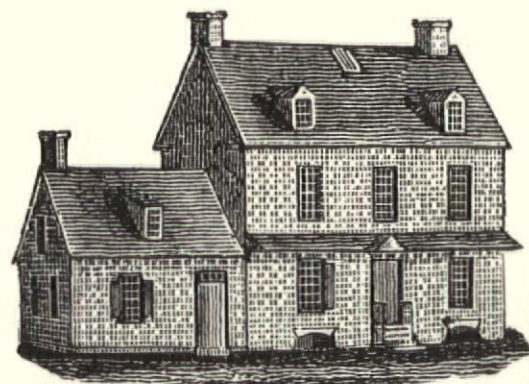
OF COURSE, custom-made clothing is never inexpensive. But with mass-produced "designer jeans" selling for \$75 in New York this fall, what is? An enormous money-saving advantage of period clothing is--it will never go out of style!

TO RECEIVE a catalog and order form, send \$1.00 to: Nelson Arriaga, 418 Grand Avenue, Brooklyn, N. Y. 11238.

(Photo by Joan O'Reilly)



If you love old houses, you should subscribe to The Old-House Journal!



THE OLD-HOUSE JOURNAL is the only publication devoted exclusively to the restoration, maintenance, and decoration of pre-1939 houses. Our plainly written articles show you practical and economical ways to turn that old house 'with a lot of potential' into the house of your dreams.

The Journal is written and edited by people who have restored old houses themselves. We've learned how to balance history with convenience, lasting quality with a budget. Our first-hand articles explain the do-it-yourself procedures that assure good workmanship while they save you money. You'll do the job at a reasonable cost, and avoid expenses and headaches in the long run. And even if you hire contractors to do the work, you'll know what they're up to — and learn to prevent costly mistakes.

The Journal is about *sensitive rehabilitation*. It's not about gut-and-strip remodelling — we call it REMUDDLING — that destroys forever the house's antique charm . . . and its tangible evidence of the past.

The Journal isn't *all* preservation nuts and bolts. We also feature articles about period interiors, landscaping, and the history of various house styles. Our unprecedented series on post-Victorian, early-20th-century house styles has received nationwide attention and spawned a soon-to-be-published book. And then there are The Old-House Journal's regular features: free classified ads for current subscribers; *Ask OHJ* — our Q & A column; *Restorer's Notebook* — time-saving and money-saving hints from readers who've learned it the hard way; *Restoration Products* — our survey of the most recent and worthwhile products and services for your old-house needs. Over the years, our readership demand has actually been able to persuade manufacturers to reintroduce such long-neglected items as push-button light switches and Lin-crusta-Walton wallcovering (a Victorian imitation of leather).

This Yearbook is only one volume of The OHJ Restoration Encyclopedia. And while the information collected from our back issues never goes out of date, we continue to break new ground. Preservation methods improve, new products are introduced. An ongoing subscription to The Old-House

Journal newsletter is your best way to stay current. We think you'll be delighted and fascinated by our unique publication. For only \$18, you can receive a one-year subscription — and become a part of The Old-House Journal Network!



The Old-House Journal

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The Old-House Journal **CATALOG**

The Ultimate Where-To-Find-It Guide

The Old-House Journal Catalog is the most comprehensive directory of products and services available to the old-house lover. The only thing "old" about the Catalog is the name . . . the rest is up-to-date, carefully screened information on over 1,250 companies.

The OHJ Catalog has the latest information on America's manufacturers and craftspeople, all personally contacted and evaluated by the editors of The Old-House Journal. And our update system ensures that you have current information on the products and services listed.

The OHJ Catalog gives you addresses, phone numbers, and information on brochures, all in three easy-to-use sections: The Product & Service Directory
The Company Directory
The Alphabetical Index

And the Catalog is extensively cross-referenced, so you don't go crazy looking for "Rosettes" when that information is found under "Ceiling Medallions."

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The Old-House Journal **CATALOG**



**A BUYER'S GUIDE FOR
THE PRE-1939 HOUSE**

Here's a partial list of the products included in The OHJ Catalog:

- Mouldings & Gingerbread Trim
- Architectural Millwork
- Old-Style Roofing & Siding
- Ornamental Ironwork
- Reproduction Doors & Windows
- Flooring
- Fretwork
- Staircases & Parts
- Tin Ceilings
- Wainscoting
- Ornamental Plaster
- Furniture & Furnishings
- Columns & Capitals
- Replacement Balusters
- Glass—Stained, Etched, Bevelled
- Mantels
- Period Fabrics & Wallpapers
- Hinges, Knobs & Other Hardware
- Period Plumbing & Fixtures
- Lighting Fixtures & Parts
- Authentic Paints & Finishes
- Tools & Supplies
- Antique & Recycled House Parts
- Ceiling Medallions & Centerpieces

Guide To Restoration Know-How

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